Maine Coastal Plan

Final Assessment and Strategy under Section 309 of the Coastal Zone Management Act

Submitted to the

National Oceanic & Atmospheric Administration
Office of Ocean and Coastal Resource Management

July 2006

Maine State Planning Office
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Funding for this document was provided by the
U.S. Department of Commerce, Office of Ocean and Coastal Resource Management,
under the Coastal Zone Management Act (CZMA) of 1972, as amended.

Printed under Appropriate # 013-07B-3650-012-6001

NOTE: This document serves several purposes. Prepared pursuant to Section 309 of the Coastal Zone Management Act, NOAA's approval of this document is necessary to qualify for federal program enhancement funds under the CZMA. For Maine, this is also a strategic planning document – a menu of ideas and approaches to guide the Maine Coastal Program, regardless of the source of funding. There are many more strategies included in this document than there is NOAA Section 309 funding available; furthermore, not all strategies proposed by the Maine Coastal Program are eligible for this source of NOAA funding. This document should therefore be viewed as a menu of high priority strategies that may be pursued by the Maine Coastal Program. Selection of projects for CZMA funding is determined annually as part of federal funding applications to NOAA and is subject to federal appropriation. We pledge to fully draw upon all state and federal resources available to us to complete these projects, and to explore additional funding sources through grants, partnerships and other arrangements.

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Introduction

Maine has had an approved coastal management program since 1978. Though a partnership with federal, state and regional agencies, local governments and others, the Maine Coastal Program attempts to balance the conservation and development of Maine's coastal resources. While the core of Maine's Coastal Program is the effective administration of environmental laws along the coast, the Program has conducted a wide range of projects over the last twenty-seven years. Some of these projects include modeling the effects of sea level rise, helping municipalities to plan for growth, investigating ways to address user conflicts in Maine's coastal waters, developing an innovative management plan for Maine's beaches, using geographic information systems (GIS) to identify valuable habitats and track coastal hazards, planning for public access and the preservation of working waterfront, and continuing to encourage volunteer stewardship. By engaging in these projects, the Maine Coastal Program has remained active in a wide variety of coastal issues.

Section 309 of the Coastal Zone Management Act (CZMA) offers states the opportunity to enhance their current coastal management programs by developing improvements to core law authorities, creating new programs, and designing new funding sources. This enhancement program requires states to periodically conduct a needs assessment of nine coastal policy areas that are considered priorities at the national level. This Plan includes Maine's 2006 assessment of these issues. State priorities have been developed and the strategies outlined in this document will guide our program enhancement efforts over the next five years, from 2006-2010.

The content that follows the introductory material is divided into nine sections corresponding to the nine priority enhancement areas: Public Access, Coastal Hazards, Ocean Resources, Wetlands, Cumulative and Secondary Impacts, Marine Debris, Special Area Management Planning, Energy and Government Facilities Siting, and Aquaculture. Each of these nine sections contains the Assessment followed by the Strategy. At present, National Oceanic and Atmospheric Administration (NOAA) Section 309 funds available to the Maine Coastal Program to pursue the program enhancement strategies detailed in this document amount to roughly $400,000 per year. Thus there are many more strategies included in this document than there is funding available and not all strategies proposed by the Maine Coastal Program are eligible for this source of NOAA funding. This document should therefore be viewed as a menu of high priority strategies that may be pursued by the Maine Coastal Program. Projects will be chosen from this menu annually as part of federal grant applications. We pledge to fully draw upon all state and federal resources available to us to complete these projects, and to explore additional funding sources through grants, and other arrangements.

Prioritization of Issues

Issue	Current Priority for Enhancement (2006)	Priority in Previous Assessment (2001)
Public Access	High	High
Coastal Hazards	High	High
Ocean Resources	High	High
Cumulative and Secondary Impacts	High	High
Special Area Management Planning	High	Low
Wetlands	Medium	High
Aquaculture	Medium	High
Energy and Government Facility Siting	Medium	Low
Marine Debris	Low	Low

Justification for Priorities

Priorities have been assigned to coastal management issues by considering: 1) the results of assessments developed for each coastal issue area; 2) concerns raised by individuals and organization during the public participation process; 3) the track record of addressing the topic in previous enhancement efforts, and 4) opportunities for development of new or enhanced management approaches considered to be eligible for CZMA Section 309 funding.

High Priority Issues for CZMA Section 309 Enhancement Funds

- Public access: Continued loss of traditional access, competition for limited coastal lands for public uses and working access, and widespread public concerns for preserving adequate access to the coast keeps public access needs a high priority for the Maine Coastal Program (MCP).

- Coastal hazards: Coastal hazards and hazard avoidance continue to be a high management priority in Maine. The coastal population has continued to grow rapidly in southern Maine and the density and value of coastal development have increased dramatically in southern Maine in the last five years. These trends are expected to continue and require a greater level of state management to avoid development in high hazard areas and to protect fragile coastal resources.

- Ocean Resources: The continued decline in Maine's fisheries, the effects of increased coastal development and other human impacts on marine ecosystems, the increase in user conflicts, and the great need to obtain and utilize environmental data to improve management continue to make Ocean Resources a high priority area for the Maine Coastal Program.

- Cumulative and Secondary Impacts: Coastal development increases the amount of impervious surface in the coastal zone and along with that come an increased amount of non-point source pollution, habitat fragmentation and degradation. The additive nature of these threats along with the need to improve ways of tracking cumulative impacts makes this issue area a high priority for the Maine Coastal Program.

- Special Area Management Planning: Maine has not formally designated any special management areas to date. Rather, we have considered inter-jurisdictional planning as a tool to address the impacts of development and encourage coordinated management of certain sensitive areas along the coast. Considering the current interest in regionalization in Maine (for land use planning and management and nearshore management in particular), the Coastal Program supports the use of special area management planning for future efforts in geographic areas with a high degree of use conflicts and a strong desire to work on regional solutions. MCP's utilization of special area planning in this way is discussed in the other areas of this plan. Given the interest in regional planning and the fact that the success of several strategies in high priority issue areas (Ocean Resources, Coastal Hazards and Cumulative and Secondary Impacts) depends on regional, coordinated management, MCP views Special Area Management Planning as a high priority issue.

Medium Priority Issues for CZMA Section 309 Enhancement Funds

- Wetlands: The change in priority from high in the last assessment to medium in this assessment results from the large of amount of work done on coastal wetland issues during the last five years. New policies and programs which dealt with identified deficiencies in coastal wetland protection are now in place or just about to become operational.

- Energy and Government Facilities Siting: The State believes that this topic should be considered a medium priority notwithstanding the significance of energy issues which are currently being addressed. The schedule for decisions on pending LNG projects, for example, precludes development and implementation of a pertinent 309 strategy. By contrast, the 309 strategies outlined in this document, are relatively forward looking and may help identify program changes to assist the state in addressing outer continental shelf (OCS) and energy facility siting activities in the future.

- Aquaculture: During the previous assessment period, tensions were elevated among stakeholders concerning the siting and impacts of aquaculture facilities. During this period, a great deal of Maine Coastal Program (MCP) efforts and resources were devoted to dealing with these issues. Due to the success of these efforts in addressing these problems, MCP currently views aquaculture as a medium priority issue.

Lower Priority Issues for CZMA Section 309 Enhancement Funds

- Marine Debris: Although marine debris is a pervasive problem in Maine, the impact of marine debris is not considered to be a primary concern, when compared to other threats. New approaches are being developed for dealing with this problem and we continue to seek ways of reducing debris at the source. The Coastal Program continues to support and enhance cleanup programs during Coastweek. These efforts are considered appropriate at this time.

Summary of Past Efforts to Enhance the Maine Coastal Program 2001-2005

Coastal Hazards

- Revisions to Maine's Coastal Sand Dune Rules (CSDR). During this assessment period, the Beach Stakeholder's Group developed revisions to the CSDR which were adopted by the Legislature as Resolves 2005, Chapter 175 in March of 2006. Revisions include new ways to determine setbacks for development within the sand dune system; a new definition of the V-zone and revised guideline for construction and reconstruction in the V-zone; clarification of allowable repairs to seawalls; and a new section providing regulatory guidance on beach nourishment.

- Protecting Maine's Beaches for the Future. A Proposal to Create an Integrated Beach Management Program was submitted to the Joint Standing Committee on Natural Resources in February, 2006. The report includes recommendations on beach nourishment, habitat management, acquisition of property from willing sellers, hazard mitigation, data and mapping and education and outreach. A specific implementation plan and strategy to develop new funding will direct the work of state agencies and others in the coming years.

- Creation of Beach Scoring System. The Maine Geological Survey (MGS) created a Beach Scoring System to help identify physical characteristics of the beach in a geographic information system, and to help guide management decisions. MGS also worked to identify "Erosion Hazard Areas" (EHA) prior to the revised definition provided in the 2005 CSDR. This project predicted where the shoreline would be in 100 years using historic shoreline change rates. This project led to improvements in the 2005 definition of EHA in the CSDR.

Ocean Resources

- Evaluation of State Fisheries Management Structure. A report entitled, "Reforming Fisheries Management in Maine", was produced in 2003 for the Department of Marine Resources and the DMR Advisory Committee. Information from the report has been used to foster discussion among industry members, advisory committees and with the legislature about the current structure of fisheries management and ways to reform this structure.

- New Approaches to Management of the Sea Urchin and Scallop Fisheries. The Department of Marine Resources led an intensive, multi-year, collaborative effort to improve management measures for these fisheries. Multiple improvements were made through statutory changes and rulemaking.

- Marine Habitat Protection - Designation of Protected Areas and Assessment of Taunton Bay. In response to the work of watershed and community groups, two estuarine areas, Taunton Bay and the Salt Bay Shellfish Preserve were offered special protection by the Maine Legislature. A three-year assessment of Taunton Bay provided for a basin characterization, and an analysis of

intertidal/subtidal benthic community structure, juvenile fish communities, waterbird/shorebird use, temporal variation in eelgrass distributions, and horseshoe crab breeding and movements. A dragging experiment was also conducted.

- Marine Protected Area Inventory. Through a partnership with the Coastal States Organization, NOAA's MPA Center and Maine Sea Grant, a project intern worked in the summer of 2005 with Maine state agencies to compile the state MPA inventory for display on NOAA's website.

- Horseshoe Crab Management. A 309-funded horseshoe crab census informed DMR's management decisions concerning this species, including a 90 day emergency closure in 2003 and subsequent regulatory, seasonal, prohibition on taking of horseshoe crabs from May 1 to October 30.

- Bay Management Study. PL 2003 c. 660, Part B (LD 1857) directed the Land and Water Resources Council ("LWRC") to undertake a two-year study "to explore and document potential new and innovative concepts for the management of Maine's embayments." The study effort began in the fall of 2004. A preliminary list of problems and issues in nearshore waters has been developed. Six public meeting have been held in different locations around the coast and two pilot projects in Muscongus Bay and Taunton Bay are underway. Staff has outlined and researched several specific topics regarding the current framework of laws and policies affecting Maine's embayments, including current law regarding interlocal agreements and municipal roles under several state natural resources laws. Staff has continued to investigate and document approaches to bay management in other jurisdictions, as well as other natural resources management efforts as potential sources of ideas applicable to Maine. In addition, staff has researched other tools which have been suggested to be of potential use for bay management, including alternative dispute resolution.

- Marine Invasive Species. The Maine Coastal Program helped organize and now chairs the ad hoc Maine Marine Invasive Species Working Group (MMISWG), formed as an outgrowth of a 2004 forum. In the absence of a lead agency for marine invasives, the group has partially fulfilled the need identified in the State Invasive Species Action Plan for an entity to focus on marine invasives in Maine. The group's efforts have included advising and recommending an approach to deal with invasives transported to the Maine coast in ballast water and via other vectors.

Wetlands

- Coastal Wetlands Restoration Strategy. Inventories of potential restoration sites were undertaken in three areas along the southern and midcoast sections of the Maine coastline. These inventories have been completed for the Royal River, Spruce Creek, and the Kennebec River Estuary. The information will be made available on the GOMC Habitat Restoration Web site and shared with the community groups that are active in each of these areas.

- Improving Regulations for Coastal Wetlands. A review of the Natural Resources Protection Act (NRPA) was completed during this assessment period to address the issue of impacts from floats on subtidal habitats. It was determined that for permitting purposes, seasonal ramps and

floats could be considered as accessory structures necessary for dock operations. Additionally, concern about the increasing number of docks and their effect on habitat lead the DEP to remove docks from the permit-by-rule process and to develop a stand alone dock permit.

- Dock Construction Handbook. CZM staff attended NOAA's two-day dock workshop in June 2005 which focused on New England. Insights gained from this workshop were used to inform the revisions made to the dock construction handbook. The handbook is currently being finalized and expected to be published in the summer of 2006.

Aquaculture

- Planning and Development of Marine Aquaculture. The Department of Marine Resources and the Maine Coastal Program provided staffing and funding to the Aquaculture Task Force. Recognizing the limitations of the current leasing process and the need for greater community involvement, the Task Force set out to improve the planning and regulatory process and support the growth of the industry in an economically and ecologically sustainable way. After six months of intensive work, the Task Force issued its findings in January 2004. The Task Force recommended various statutory, regulatory and administrative changes and highlighted the need for improved information sharing. Please see the Aquaculture Assessment for a detailed list of Task Force recommendations.

- Development of Performance Standards for Aquaculture. In 2005, the DMR proposed rules to implement noise, light, and visual impact standards. Those rules were ultimately adopted, and are in place today. The rules include a standard of "reasonable measures will be taken to mitigate" the impacts. There is no standard for how much measurable light or noise may be present at the boundary of the site, however there is a per fixture wattage limit for lighting and other specific directives as to how lighting and noise-producing equipment is to be installed and/or mitigated.

- Review of the Finfish Aquaculture Monitoring Program (FAMP). During the recent assessment period, DMR utilized 309 funds to undertake a review of the Finfish Aquaculture Monitoring Program or FAMP. The FAMP review validated DMR's monitoring program, and suggested additional techniques to investigate. Shortly following that review, the monitoring program was incorporated in the MEPDES (Maine Pollutant Discharge Elimination System) permit. Some of the techniques that the FAMP review suggested investigating were incorporated, without any further investigation, into the MEPDES permit.

Cumulative and Secondary Impacts of Development

- New Approaches to Habitat Protection. Section 309 funds have also been used to support a 12-town regional open space planning initiative along mid-coast Maine. This project, developed in conjunction with the regional planner, addresses the region's identified sense of cumulative loss of rural character and open space. The goals of this project are to develop a regional open space plan based on Beginning with Habitat data, review the efficacy of shoreland zoning in the region

and make recommendations on how to more effectively protect shoreland habitat, and to develop a model inter-municipal agreement designed to allow towns to share growth and rural designations in their respective comprehensive plans.

- Development of Nearshore Habitat Information for Municipalities. *Beginning with Habitat* (www.BeginningwithHabitat.org) is a habitat-based landscape approach to assessing wildlife and plant conservation needs and opportunities. Since the last Assessment, *Beginning with Habitat* has undertaken a process to compile and analyze nearshore habitat information to identify coastal focus areas where there are confluences of important nearshore coastal resources. This process has included the development of new Geographic Information System (GIS) data layers along with the compilation of existing GIS data layers.

Public Participation

Description of the Process

A variety of methods were used to publicize the availability of the draft *Maine Coastal Plan, 2006 Assessment and Strategy under Section 309 of the Coastal Zone Management Act* and to obtain comments from coastal constituents. The official comment period was publicized and comments were solicited during the 30-day period from May 5th through June 5th, 2006.

State Agency Input

MCP hosted an interagency meeting on the Maine Coastal Plan Assessment and Strategy at the end of March. Attendees included representatives from the Department of Environmental Protection, Department of Marine Resources, Maine Emergency Management Agency, the Governor's Office on Energy Independence and Security, Maine Geological Survey (Department of Conservation), as well as Betsy Nicholson, the NOAA Northeast Regional Coastal Program Specialist. The meeting consisted of presentations on the strategies for each issue area, followed by breakout discussions in which agency staff were invited to provide comment on the strategies. Most agency staff agreed with the priority ratings MCP had assigned to each issue areas. MCP received valuable input during this meeting, some of which was incorporated into revisions to the *Maine Coastal Plan, Assessment and Strategy.*

Ad-hoc Advisory Group

Individuals representing a variety of coastal interest areas were invited to comment on the Plan. Several individuals accepted the invitation and provided written comments in the time frame requested. One late set of comments was accepted. The section on "Summary of Feedback" at the end of this chapter provides an overview of the comments received, and the Appendix includes all comments received along with staff responses to the comments.

Internet Posting

The draft *Maine Coastal Plan, Assessment and Strategy* was posted on the Maine Coastal Program website. Along with the plan, a set of instructions was posted that listed questions for reviewers to consider while reading the document and provided contact information for submittal of comments.

Direct Mail

A postcard announcement of the availability of the draft *Maine Coastal Plan Assessment and Strategy* was mailed to recipients of The Maine Coastline newsletter, circulation 725. The announcement listed the website address, invited participation in the effort and provided contact information for submittal of comments.

Land and Water Resources Council

The Land and Water Resources Council (LWRC) is an interagency group established in statute. Its members include the commissioners of the state's environmental agencies, and the Department of

Human Services, the Department of Agriculture, Food and Rural Resources and the Department of Economic and Community Development. While state agency staffs from departments other than SPO were involved in the development of the assessment and strategy, a review by the Land and Water Resources Council ensured that the Plan addressed collective priority coastal issues. In addition, the review by the LWRC resulted in the addition of a new strategy addressing threats facing diadromous fish.

Summary of Feedback

Priority Setting

Most state agency staff who provided input and several other reviewers of the *Maine Coastal Plan Assessment and Strategy* agreed with the priority ratings. However, MCP received some comments from non-agency stakeholders who disagreed with individual ratings. One reviewer indicated that the medium priority rating for Energy and Government facilities siting was too low, while two other reviewers felt that the Special Area Management Plan issue area should be rated as high.

Suggestions for Additional Areas of Emphasis

Several reviewers made suggestions for areas of additional emphasis for the 309 enhancement program. These included:

- Devoting a section to wildlife and wildlife habitat.
- Placing more emphasis on revising and enforcing Maine's Shoreland Zoning Ordinance.
- Recognizing the lack of incentives as an impediment to implementing alternatives to traditional development.
- Addressing the issue of the siting of liquefied natural gas (LNG) terminals.
- Placing more effort on progressing to an ecosystem-based management approach by utilizing the results from the Bay Management study.
- Placing much less emphasis on Aquaculture and more on Ocean Resources and Special Area Management Planning (SAMP)

Use of Public Comments

Comments received on *The Maine Coastal Plan, Assessment and Strategy* are included in their entirety in the Appendix of this report, along with a response from MCP staff. In many cases, comments were incorporated into the final document through the correction of errors, addition of information, clarification of approaches and addition of new strategies. One of the priority ratings in the *Plan* (Special Area Management Planning) was changed (from low to high) based on public comments.

A copy of the Appendix was provided to reviewers along with a link to the revised *Plan* including the Appendix which was posted on the Maine Coastal Program web site.

Public Access: Assessment

Section 309 Programmatic Objectives

I. Improve public access through regulatory, statutory, and legal systems.

II. Acquire, improve, and maintain public access sites to meet current and future demand through the use of innovative funding and acquisition techniques.

III. Develop or enhance a Coastal Public Access Management Plan which takes into account the provision of public access to all users of coastal areas of recreational, historical, aesthetic, ecological, and cultural value.

IV. Minimize potential adverse impacts of public access on coastal resources and private property rights through appropriate protection measures.

Resource Characterization

Extent and Trends in Providing Public Access (publicly owned or accessible)

1. Provide a qualitative and quantitative description of the current status of public access in your jurisdiction. Also, identify any ongoing or planned efforts to develop quantitative measures to assess your progress in managing this issue area.

Maine has a long coast that stretches some 5,300 miles when all of its bays and tidal rivers are factored in along with 4,613 islands that are an acre or more in size. While most of the Maine coast is privately owned, for generations residents and visitors have enjoyed a tradition of unhindered passage over private lands to access tidal waters. This tradition is being lost as coastal land becomes increasingly used for residential and commercial development. With a diminishing amount of coastal land available for a range of activities – such as commercial and recreational fishing, hunting, clamming, hiking, wildlife-watching, and boating – the importance of securing public access has risen substantially in recent years.

Public access to the coast occurs in several forms including scenic or visual access from public roads and lands, physical access over public and private conserved lands to the shore, and a range of water access sites and facilities for recreational and commercial activities. Active land conservation efforts by towns, state and federal agencies is one way public access is being created. State boating facilities programs coupled with local town efforts are preserving and improving public access for recreational boating, fishing, and hunting activities. Working access to the coast is being addressed through local planning, a new current use taxation program, the activities of the Working Waterfront Coalition and a new pilot working waterfront acquisition program.

Public Access and the Public Trust Doctrine in Maine

Maine is one of a handful of coastal states whose intertidal areas may be privately owned. Although it has more than 5,300 miles of coastline, Maine has less than 40 miles of sand beaches, mostly in the south-western, more populated area of the State. In 1989, Maine's highest court ruled that the remaining public rights in the intertidal zone are limited to those under a "public easement" for "fishing, fowling and navigation", as provided under a pre-statehood colonial ordinance that evolved into pertinent state common law. *Bell v. Town of Wells*, 557 A.2d 168, 169 (Me. 1989). In reaching its decision, the Court declared a 1985 state law, the Public Trust in Intertidal Land Act ("Public Trust Act"), 12 MRSA ch. 202-A, which construed public rights in the State's intertidal zone more expansively and consistently with modern views on the nature and scope of public rights under the Public Trust Doctrine as defined in other states, an unconstitutional taking absent provision for compensation to private landowners for acquisition of public rights other than those under the "public easement." *See id*, p. 177-79. The law remains on the books and, in light of the Court's decision, unimplemented.

The public use and economic value of the State's beaches and other intertidal areas continue to grow. Demographic changes and changing land uses may threaten existing public uses of intertidal areas for commercial and recreational purposes not clearly within the scope of "fishing, fowling and navigation." In addition, these same factors may threaten public access to intertidal areas and thus frustrate exercise of historic public access to these areas. In contrast, the Commonwealth of Massachusetts' public trust doctrine as applied to the intertidal zone stems from the same colonial ordinance as Maine's, but it appears that Massachusetts law may construe the nature and extent of public rights in the intertidal area somewhat more expansively. A review and revision, as appropriate, of the legislative policies underlying the State's Public Trust Act could be a means to secure broader public rights important to Maine people now and in the future.

Land Conservation Efforts

The state has in place several effective programs to acquire land for public use and enjoyment, and has made significant progress in recent years to secure access to the water and to protect important land along the coast. Many organizations including local land trusts are active in the state, oftentimes working together to acquire land for public purposes. Year by year, acreage is being protected by the U.S. Fish and Wildlife Service and is added to the state's three national wildlife refuges. According to the Conservation Lands Inventory, Maine has 71,009 acres of federally owned conservation land in the coastal zone. The Maine Department of Inland Fisheries and Wildlife (DIFW) and the Maine Department of Conservation (DOC) have acquired lands and added them to their wildlife management areas, state parks and reserve lands. Currently, there are 80,757 acres of state owned conserved lands in the coastal zone. Two statewide nonprofit conservation organizations, The Nature Conservancy (Maine Chapter) and the Maine Coast Heritage Trust, have also worked to acquire spectacular properties on the mainland and on islands (many parcels have been transferred to State ownership). Over the past 10 years, many land trusts have been established in coastal communities, so that as of 2005 there were 59 local and regional land trusts active in the coastal zone. It is difficult to pin down an exact figure for the amount of conserved coastal lands held by land trusts given that the acquired parcels on the coast often extend beyond the boundaries of the coastal zone. However, according to the Maine Coast Heritage Trust, since 1970, over 30,000 acres of coastal lands have been preserved in fee, and an additional 30,000 acres have been protected through easements in the coastal zone.

The rate of coastal land acquisitions for conservation and water access has been dramatically increased by the Land for Maine's Future Program (LMF). Since it LMF was established in 1987, Maine voters have authorized the expenditure of $85 million in public bonds for public land purchases. In 2005 voters authorized an additional $12 million for land conservation purchases, including a $2 million set aside for protecting working waterfront properties. Since its inception, the Land for Maine's Future Program has assisted in the acquisition of more than 189,900 acres of conservation lands of state, regional, and local significance, with an additional 51,000 acres protected through conservation easements. In the state's coastal zone, LMF funding has supported 75 land acquisitions totaling 25,293 acres. Coastal acquisitions range from small boat launch sites to long stretches of undeveloped coastal headlands.

Water Access Programs

While Maine is making progress in protecting land for general recreation, conservation, and wildlife habitat, there are unfilled needs. This is particularly true for boat access for recreational and commercial fishermen. Along the entire coast, there are now 85 state-owned or assisted tidal, public boat access sites (up from 74 in the last assessment). This averages out to one state site for every 54 miles of mainland shoreline. These sites occur in 62 (up six from 56) of Maine's 139 coastal municipalities. According to the DOC – which is responsible for developing and maintaining most of these sites in cooperation with the towns – there is about $1.2 million available each year for boat access site acquisition, development and refurbishment, and this is not enough to meet all the needs. Additional water access sites for recreation and commercial fishing are provided by municipalities.

Identifying Water Access Needs and Priorities. The statewide Strategic Plan for Providing Boating and Fishing Access to the Waters of the State was last updated in 1995. The Department of Conservation (DOC) is currently leading an effort to revise and update the strategic access plan through a stakeholder's process to identify access needs to great ponds, rivers and streams, and coastal waters. In 2000, a report on Coastal Water Access Priority Areas for Boating and Fishing was prepared by the Department of Marine Resources (DMR) and the Maine Coastal Program (MCP) that broadly identified first, second, and other priority level access needs along the coast. This work has provided weight for projects to obtain public funding in the priority areas. However, the existence of a willing seller and the opportunity to purchase land for public access lands have been equally influencial in expanding public access to coastal waters.

The Maine Coast Protection Initiative. This initiative was launched in 2003 (scheduled to conclude in 2007) to increase the pace and quality of coastal land conservation by improving the ability of land trusts to strategically conserve high priority habitats, public access, and scenic and cultural resources in their service areas. Through this initiative, land trusts are assisted with conservation planning to identify priority areas or resources for proactive conservation efforts, including high priority needs, such as public water access. An implementation grant to the Island Institute is supporting a coastwide inventory of public access sites and private commercial fishing sites and facilities, which will be the basis of a public access data layer in Maine's GIS database. Additional analysis is planned to identify and prioritize access needs for inclusion in local conservation plans.

Small Harbor Improvement Program (SHIP). Established by a bond in 1995, the SHIP, which is run by Maine's Department of Transportation (DOT), has funded dozens of waterfront access and harbor improvement projects. SHIP received funding in 2003, 2004, and 2005 to continue public

investment in coastal communities through a competitive grants program. New public funding in 2006 ensures that this program will continue to support marine infrastructure improvements.

Performance Indicators

Coastal Zone Management Performance Measurement System (CZMPMS). In 2001, NOAA was charged by Congress to develop a suite of indicators with which to measure the effectiveness of the Coastal Zone Management Program. The Maine Coastal Program volunteered to take part in the pilot phase of indicator development during which NOAA worked through many of the issues encountered in the establishment of the CZMPMS. In December, 2004, MCP issued its final report on this pilot phase, Maine Coastal Indicators: National Coastal Management Performance Measurement System Pilot Project. Currently, MCP is populating the public access and governance indicator databases.

2. Briefly characterize the demand for coastal public access within the coastal zone, and the process for periodically assessing public demand.

The ability to gain access to coastal waters continues to be a persistent and critical issue for residents and visitors alike. This is particularly true in periods of strong economic growth when coastal land development and the loss of land for public access occur at a more rapid pace.

A 2002 survey of 25 coastal fishing communities conducted for the Maine Coastal Program by Coastal Enterprises, Inc. found that 64 percent of respondents viewed the loss of public and working access as a major community concern, and 80% of the towns contemplated efforts to address the issue.

Clearly, public access to Maine's coastal waters is an issue that will not go away, particularly for the state's coastal waters, which support both recreational *and* commercial users. In fact, the need to address the issue will only become more pressing. Below are indicators of the need for public access:

- *Population and Tourism Growth* – Almost half of the state's population lives in coastal towns. From 1990 to 2000 the population of coastal towns grew approximately 6% to 565,645. Coastal population is expected to increase another 9% by the year 2015. In 2000, over 74% of the total state population lived in coastal counties, a 6.5% increase over 1990.

  The Maine coast is also the major draw for visitors. According to the Maine Office of Tourism visitors made 9.4 million overnight trips to Maine in 1999, with 46% of these trips to the southern Maine coast and 37% to Greater Portland/Casco Bay. Areas that consistently receive a large number of visitors include the southern coast and Mt. Desert Island. While tourism growth fluctuates with national economic conditions, the Tourism Office expects that the number of visitors to the coast will rise over time.

- *Growth in Recreational Activities* – The recreational use of coastal waters is still strong. According to the Marine Recreational Fisheries Statistics Survey (2004), conducted by the Maine Department of Marine Resources and the National Marine Fisheries Service, the number of saltwater anglers in Maine dropped slightly from 308,200 (142,204 were Maine residents) in 2001 to 287,435 (132,248 were Maine residents) in 2004. These numbers fluctuate yearly, depending

on the weather and fishing interest, but sports fishermen remain substantial users of water access facilities.

Maine's long coastline and many islands continue to be an attraction for resident and nonresident kayak and canoe paddlers. A recent study found that there were approximately 54,000 kayaking clients enjoying the services of sea kayaking guides. The number of paddlers accessing the coast via the Maine Island Trail has increased slightly over the past 4-5 years, while membership in the Maine Island Trail Association has increased by 18% from 3,400 members in 1999 to 4000 in 2005.

Statewide Comprehensive Outdoor Recreation Plan (SCORP): The state receives federal matching funds from the federal Land and Water Conservation Fund program for acquisition and development of public outdoor recreation areas and facilities and for statewide outdoor recreation planning. Every 5 years the state must submit an updated SCORP for approval by the National Park Service to be eligible for this funding. The SCORP inventories the supply and demand for outdoor recreation areas on a comprehensive statewide basis. Therefore, it is not possible to discern from this document the supply and demand for outdoor recreation in Maine's coastal zone. However, the most recent SCORP (2003) includes a strategy to "intensify the search for lands that can be purchased to provide boating and coastal access, especially in the southern coastal area."

- *Commercial Fishing* – Commercial fishing continues to be a mainstay of the coastal economy. In 2004, the total number of licensed fishermen was 16,200 and the total value of landings was approximately $405 million (Department of Marine Resources).

  In 2002, the Maine Coastal Program contracted with Coastal Enterprises Inc (CEI). to conduct an in-depth survey of 25 communities along the coast to document the status of working waterfronts. The survey found that 75% of the fishing access was gained over privately-owned sites and facilities, and 25% over publicly owned facilities. Further, 40% of the working access over private facilities utilizes residential property, an arrangement that can be very volatile.

- *Boat Registrations* – While the number of registered boats in Maine fluctuates each year with the economy and the weather, registrations from 2001 through 2004 remained fairly constant between 126,000 and 128,000 recreational and commercial craft. An estimated 30% of these boaters use both inland and coastal waters.

- *Commercial and Recreational Boat Anchorage and Berthing Facilities* – In a 2004 tracking survey of the 25 coastal communities surveyed in 2002, CEI found that the number of anchorages, berthings, slips and tie-ups that support commercial fishing and recreational boating increased by 6% between 2002 and 2003.

3. Identify any significant impediments to providing adequate access, including conflicts with other resource management objectives.

- Sources of funding for land acquisition remain limited and represent a significant impediment to providing adequate access. This past year, Land for Maine's Future (LMF) program received proposals for 20 million dollars worth of land acquisition projects. However, LMF only had $10 million in available funds.

- In the face of the increasing demands for waterfront properties, reliance on the traditional custom of passage over private lands to gain access to state waters is no longer an effective policy to ensure widespread public access to the coast. The public has relatively limited rights to travel over private property to access the shore based on public trust rights in the intertidal zone which are restricted to three narrowly defined activities - fishing, fowling, and navigation. In addition, provision of public access is not required by state permits for development projects. Towns do, however, have some influence through subdivision review and approvals to protect existing access and perhaps gain some additional access ways, at least for residents in the planned subdivision.

- *Land Costs* – Rising land values along the coast are making it more difficult for the state and other to acquire land for the public benefit. Coastal land values are appreciating at rates of 12% per year (based on LMF experience with property appraisals), reducing the effectiveness of acquisition programs, which often cannot compete with the market because they must purchase property at or below appraised fair market value.

- *Access Opportunities* – The opportunities for acquiring land for public access, especially in high priority areas, is limited by the number of suitable sites and timing of property coming up for sale.

- *Lack of Community Support* – Sometimes adjoining land owners and/or towns oppose the planned development of a public boat or pedestrian access sites, which can pose major problems for access development. While most people support increased water access, sometimes they oppose it if it is in proximity to their homes and businesses, or they feel it is being thrust upon them.

4. Table depicting access type, extent and changes since last assessment.

Access Type	Extent (# of sites and/or # of miles or acres)	Last Assessment
State/County/Local Parks	State Parks/Reserve Lands: 47,931 acres	45,328 acres
	Municipal Parks: no data available	no data available
Public Beaches	135 beaches	135 beaches
Public Boat Ramps	85 state facilities	74 state facilities
Scenic Vistas	23 MDOT roadside turnouts and rest areas	20 areas/turnouts
State/Local Designated Rights-of-Way	no data available	no data available
Fishing Piers	130 estimated	130 estimated
Coastal Trails	no statewide data available	no data available
Disabled Access	15 developed state parks and historic sites 4 public beaches	15 state parks
Boardwalks/Walkways	7 municipalities	7 municipalities
Dune Walkovers	no statewide information available	no data available
% of Public Beaches with Water Quality Monitoring and Public Notice	90% of ocean sand beaches	no data available
Number of Beach Closures due to Water Quality Concerns	0.98 closures per day 2.72 advisories per mile of monitored beach (2005 data, 100 day swimming season)	no data available
Number of Existing Public Access Sites that have been Enhanced	15 enhanced since 2001 by DOC	no data available
Other	National Wildlife Refuges: 25,167	23,949 acres*
	National Park: 48,000 acres	46,600 acres
	National Estuarine Reserve: 1,600 acres	1,600 acres
	State Wildlife Management Areas: 28,579 acres	27,082 acres*

Source and Date of Data

State/county/local parks - *Conservation Lands Inventory*, State Planning Office, 1997, and personal communication with DOC, 2006; public beaches - *Coastal Public Access in Maine* report, Maine Coastal Program, 1990, and personal communication with Coastal Program staff, 2006; public boat ramps - *State ramps: State Sponsored and Assisted Boat Access Sites* database, DOC Boating Facilities Program, 2004 (note: those sites identified as "State" sites are those that are State owned and managed or are those owned by municipalities but developed with State assistance); scenic vistas - DOT database, 2005 (note: There is no comprehensive inventory of scenic vistas. Those mentioned here are turnouts on State roads in coastal communities maintained by the DOT. Over the past two decades, local land trusts have been the entities that have protected scenic areas in coastal communities, but no comprehensive inventory of these exists.); rights-of-way - no statewide data available; fishing piers - *Maine Port Facilities Inventory and Analysis*, developed for the State by Southern Maine Economic Development District and Eastern Maine Development Corporation for DMR and DOT, 1999, and personal communication with Coastal Program staff, 2006 (note: piers and wharves are often used interchangeably, so this number reflects both types of marine infrastructure); disabled access - DOC Bureau of Parks and Lands, personal correspondence, 2006; boardwalks/walkways - personal correspondence with Coastal Program staff, 2006; other - *Conservation Lands Inventory*, State Planning Office, 1997 (note: NERR site encompasses 1,100 acres of U.S. Wildlife Refuge land); number of enhanced public access sites - DOC personal communication, 2006; beach closure and monitoring data, correspondence with Maine Healthy Beaches Program staff, 2006.

* These 2001 values are different than they appeared in the last assessment. 2001 values have been updated since the last assessment through the use of GIS which is more accurate than the method previously used to calculate acreages.

5. Does the state have a public access guide or website?

The Maine Coastal Program website includes a page called "Getting to the Shore" which contains information and links relevant to the policy aspects of public access. Resources include a slide show entitled *Who Owns the Beaches: Private Ownership and the Public Trust Doctrine in Maine,* as well as

information on the Coastal Program's Right-of-Way Discovery Grants Program. Additionally, there is a Land for Maine's Future page, accessed from the State Planning Office website, which provides information about the LMF program along with descriptions and locations of LMF acquisitions. In addition, The Department of Conservation website contains a guide to state parks.

Management Characterization

For each of the management categories below, identify significant changes since the last assessment. For categories with changes:

- Summarize the change;
- Specify whether it was a 309, 306A, or other CZM driven change and specify funding source; and
- Characterize the effect of the changes in terms of both program outputs and outcomes.

Management Category	Changes Since Last Assessment	Funding
statutory, regulatory or legal system	none	state
acquisition programs	significant	section 306
comprehensive access planning	significant	
operation and maintenance programs	none	
innovative funding techniques	significant	state
public education and outreach	moderate	306 and state
beach monitoring programs	significant	EPA
other	none	

Acquisition Programs

Land for Maine's Future Program. This State program was created in 1987 when Maine voters approved a $35 million bond to acquire lands for conservation, recreation, and farmland protection of statewide significance. The LMF Program received additional support in the fall of 1999 when voters approved a $50 million bond to acquire lands of statewide, regional, and local significance. Then again in the fall of 2005, Maine voters approved another $12 million for the LMF program, including a $2 million set aside to preserve working waterfront access properties. The fund is managed by an 11-member Board, and the Program is coordinated by the State Planning Office (SPO). Two of the Board's high priority areas for acquisition include undeveloped coastal lands and land that will provide water access for boating and fishing. The LMF program provides a significant boost to increasing public access to the coast for a wide range of activities. Funding comes from a bond, which will be retired using State general fund revenues.

Coastal Estuarine Land Conservation Program (CELCP). With NOAA financial assistance, a State CELCP Plan was prepared to guide the state's process for identifying priority estuarine conservation projects for nomination to NOAA in a potential, future competitive grants program. In the meantime, the Maine Coastal Program, the designated state lead agency, has actively supported three CELCP projects that have received earmark appropriations from Congress, plus two project nominations for FY 07 consideration. Future CELCP projects will be evaluated and nominated for federal funding through the process established by this plan.

Comprehensive Access Planning

Right-of-Way Discovery Grants (CZMA Section 306 funding). The Maine Coastal Program continues to provide small grants (up to $2,500) to coastal towns to research and re-establish public access rights to the coast. This modest program continues to evolve and be a critical resource for coastal towns confronted with the need to clarify and re-establish public access rights to the shore.

Coastal Water Access Working Group. In 2002 a Bill (LD 2118) enacted by the Maine Legislature to implement the recommendations of the Committee to Study the Loss of Commercial Fishing Waterfront Access and Other Economic Development Issues Affecting Commercial Fishing, directed the State Planning Office and the Department of Marine Resources to convene a working group of staff from all state agencies that deal with coastal water access. The purpose of the working group is to share data and program activities and find areas for collaboration. This committee meets periodically in conjunction with the MDOT Recreational Access committee to review water access project plans and opportunities for coastal and inland waters of the state. Inter-agency program coordination is fostered through this mechanism, but each agency works to fulfill its particular program objectives.

Water Access Surveys. In 2002, the Maine Coastal Program contracted with Coastal Enterprises Inc (CEI) to conduct an in-depth survey of 25 communities along the coast documenting the status of working waterfronts. The survey found that 75% of the fishing access was gained over privately owned sites and facilities and 25% over publicly owned facilities. Further 40% of the working access over private facilities utilizes residential property, an arrangement that can be very volatile.

Innovative Funding Techniques

Shore and Harbor Management Fund. As part of its expansion on the Kennebec River, Bath Iron Works – a shipbuilding company – purchased submerged lands from the State amounting to $1.5 million. These funds were placed into an interest bearing account managed by the Submerged Lands Program at DOC, under the guidance of the Submerged Lands Program Advisory Board, composed of private sector, municipal, and state officials. The Advisory Board elected to disperse capital and interest from this fund through existing established programs to be distributed as grants through the Small Harbor Improvement Program at the Maine Department of Transportation, and as Shore and Harbor Planning Grants from the Maine Coastal Program. These funds are supporting a variety of harbor planning and improvement activities underway through 2006.

Working Waterfront Access Pilot Program. Passage of the $12 million LMF bond in November 2005 established a unique working waterfront protection program, funded by a $2 million set-aside for projects that protect strategically significant working waterfront properties. Financial grants up to 50% of the acquisition costs for the property will be available to private businesses, cooperatives, municipalities, organizations qualified to hold conservation easements under Maine law, or other qualified organizations for projects that will provide for permanent access use by commercial fisheries businesses. The Department of Marine Resources will administer the pilot program in conjunction with the Land for Maine's Future Board. The State Planning Office and Maine Department of Transportation will provide assistance. To aid in the development of the program the Commissioner of DMR will organize a Review Panel to advise on the operation of the program, including evaluating and recommending applicants for participation in the program. A call for proposals will likely occur by spring or early summer 2006, with projects being chosen late that same year.

Current Use Taxation. Maine voters approved an amendment to the State Constitution which permits waterfront land that is used for or that supports commercial fishing activities to be assessed based on the land's current use. The amendment was enacted in order to encourage the preservation of working waterfront land and prevent the conversion of working waterfront land to other uses as the results of economic pressures caused by the assessment of that land for purposes of property taxation at values incompatible with its use as working waterfront land. Assessed values can be reduced up to 50% if the property is permanently protected through deed restrictions. As of the drafting of this report, the bill had been reported out of committee with a recommendation that it be approved by the full Legislature.

The Maine Outdoor Heritage Fund. MOHF was created in the mid-1990s to conserve Maine's special places and provide opportunities for the public to enjoy them. Some of the program's funds, which are derived from special lottery tickets, help fund the acquisition of public lands for conservation, public access, and outdoor recreation. Public access is an important part of the mission of MOHF, which awards grants to agencies or organizations working to provide or protect public access to Maine's shoreline. Grants are awarded twice a year on a competitive basis.

Public Education and Outreach

Harbor Managers Handbook. Harbor Management: A Legal Guide for Harbormasters and Coastal Officials was recently updated and will be further updated through the efforts of the Maine Harbor Masters Association. The MCP supported updates in the past.

Working Waterfront Initiative. In addition to actively participating with and supporting the Working Waterfront Coalition, the MCP created new web pages on the program's official website that feature information about harbor planning activities, access to SPO/MCP publications, and technical and financial resources.

Maine Beaches Conference. Public access to beaches, intertidal rights, and working access to the coast were topics at the 2005 conference. Access to and use of Maine beaches continues to be a key public issue for coastal residents.

Land for Maine's Future website. This site, which is linked from the State Planning Office website, provides information about the LMF program along with descriptions and locations of LMF acquisitions.

Beach water quality monitoring and/or pollution source identification

In 2001, the Maine Coastal Program Maine received an EPA grant to support the development of a coastal swimming beach monitoring and notification program. The Maine Healthy Beaches Program (MHBP) is designed to work with local municipalities or the management entity of a public swimming area to maintain a healthy and safe swimming environment. The Program sets up a quality assured structure to monitor the water quality and provide the management entity credible grounds for posting a health advisory. The Program currently has 42 beaches and 18 municipalities/State Parks as partners.

Approximately 90% of Maine's sandy beaches are monitored for bacteria as part of the MHBP. For the 2005 swimming season, Maine experienced 98 total days with either a posting of an advisory or closure at a public swimming area. This correlates to 2.72 advisories per mile and 0.98 advisories per

day (100 day swim season). These high figures were due to persistent closures at several locations that are currently still under investigation.

As part of the support to local beach managers participating in the Program, Maine has been exploring the idea of developing advanced techniques to determine the source of contamination at Maine's public swimming areas. Currently, the methods employed involve conducting additional monitoring, sanitary septic inspections, agricultural operation inspections and through watershed sanitary surveys. Maine lacks the ability to rapidly and cost effectively determine the origin of contamination when other methods fail to reveal the potential sources. Working with the USEPA Region 1, the MHBP is exploring the development of rapid quantitative polymerase chain reaction (QPCR) testing or other methods that permit the identification of a source.

Impediments to healthy beach programs include the following issues: a) Maine is lacking a state mandate to monitor public swimming beaches for water quality; b) there is limited staff to implement the program; c) little or no coordination for monitoring freshwater beaches; d) limited locations which can be used to analyze water samples; and f) limited funding support.

Conclusions

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 strategy.

Coastal lands are being developed quickly and actively in many areas, therefore, the State could take a more proactive role in identifying potential sites and working with towns, realtors, developers and local conservation groups on public access land acquisition efforts. State and conservation organizations work to identify priority acquisition needs in order to be better prepared to take advantage of opportunities as they arise. A more proactive effort requires additional resources and efforts and may encounter increased resistance from land owners and municipal officials over perceived heavy handed tactics and insensitive actions if they do not act in concert with the local community. The State of Maine does not currently have an up-to-date conservation lands and public access database. Data is held in many different agencies and programs. There is no mechanism in place to gather and house this data. An up-to-date and well-maintained Public Access and Conservation Lands Inventory is essential to guide the efficient use of resources to insure adequate public access within the coastal zone. This data gap also makes it difficult to accurately report on the public access indicator for the National Coastal Management Performance Measurement System.

While there are several statewide programs that address recreational boater and angler access needs, none exists to identify or acquire public water access sites that are important to commercial fishing and other water dependent users. Over time, private wharves, piers, and boat launches where commercial fishing has traditionally occurred have been converted to private residential use or commercial activities. This has put increasing commercial pressure on existing public water access sites. While this issue is not the responsibility of any one agency or board, the State should develop a strategy to meet the specific needs of commercial fishermen. The development of a new public investment program to preserve working access, approved by voters and funded by bond funds in

the Fall of 2005 creates a pilot program aimed at protecting waterfront lands and facilities, capacity, and services needed to support commercial fisheries businesses. Continued funding of the SHIP program will assist municipalities with marine infrastructure improvements.

- Public Access Program Effectiveness – The State has taken a number of steps to encourage and improve inter-program coordination to leverage funds and program effectiveness toward high priority access needs and opportunities, but more could be done to achieve real project coordination and collaboration. There is a need to renew/intensify efforts through existing arrangements to increase coordination, and these efforts should be guided by updated priorities.

- In the face of the increasing demands for waterfront properties, reliance on the traditional custom of passage over private lands to gain access to state waters is not an effective policy to ensure widespread public access to the shore. There is a need for more public access sites and facilities to meet public needs, a clarification of public trust rights in intertidal lands, and a need to work more closely with program partners to acquire priority lands that will provide boating access for recreation and commercial marine activities.

2. What priority was this area previously and what priority is it now for developing a 309 strategy and allocating 309 funding and why?

Promoting public access to the shoreline, maintaining the scenic beauty and character of the coast, and expanding the opportunities for outdoor recreation are key elements of the State's coastal policy goals. Continued loss of traditional access, competition for limited coastal lands for public uses and working access, and widespread public concerns for preserving adequate access to the coast keeps public access needs as a high priority for the Maine Coastal Program.

Last Assessment	This Assessment
x High	x High
_____ Medium	_____ Medium
_____ Low	_____ Low

Public Access: Strategy

A fairly well developed infrastructure of public and private non-profit agencies and organizations is in place and is making progress in securing, enhancing, and expanding public access to the Maine coast. Greater emphasis on prioritizing access needs and more attention to coordination and collaboration across programs will yield greater results. These efforts will be bolstered by updated and new GIS based inventories and data bases, as well as a renewed analysis of access needs and prioritization efforts. Finally, public access issues can be advanced by government policy initiatives aimed at redefining the State's interest in access to beaches, use of intertidal lands, and a public hazards and storm loss reduction program.

Strategies to be funded by CZMA Section 309 monies

Create products and conduct studies that make the public aware of coastal water access issues and current opportunities, which may lead to a change in recognized public trust rights in the intertidal zone.

1. Comprehensive Geographic Information System (GIS) Database.

MCP will partner with other agencies to develop a complete and up-to-date GIS layer of public access sites and conserved lands. One aspect of this database will be a water access data layer incorporating new inventory data being collected by the Island Institute. An online and hard copy version of the atlas will be developed.

This strategy addresses the CZM Performance Measurement System by developing a means to quantify, characterize and track changes in the extent and type of public access points on the Maine coast. This comprehensive database will also include data from other indicators such as Coastal Wetlands, Coastal Hazards and Coastal Habitats.

MCP will work with state agencies to identify existing data and data gaps, develop a format for this GIS application, and develop a process for regularly updating the data. Please note that this strategy is also referenced in the Wetlands and the Cumulative and Secondary Impacts strategies.

a) *Program Change:*
With better baseline data and a mechanism to update and maintain these data streams, the MCP program will be able to identify and develop more effective policies and programs that address public access needs.

b) *What is the anticipated effect of the program change?:*
This program change is expected to improve MCP's ability to assess public access needs and to use that information to identify potential public access sites. Also, having one common database that includes projects from multiple agencies will improve agency coordination on public access issues and allow agencies to identify gaps in addressing pubic access needs.

c) *Why is this activity the most appropriate means for addressing this issue:*
Effective programs and policies must be based on accurate resource assessment and management characterization. GIS provides a powerful tool to maintain accurate data, assess the interrelationship of data layers, and undertake analysis of those interrelationships.

d) *General Workplan:*

FY06/07 - Assess current conserved lands and public access data and develop database structure; develop interagency agreements and mechanism to update database on an annual basis.

FY08/09 - Undertake data research and begin populating database.

FY09/10 - Complete data acquisition; develop on-line data viewer, develop atlas.

e) *Summary of Costs:*

FY06	$50,000
FY07	$95,000
FY08	$25,000
FY09	$15,000
FY10	$10,000

f) *Likelihood of Success:*
High – The technology to accomplish this type of interagency project has matured to point where the likelihood of success for such as an undertaking is very high.

2. Acquisition of Storm-Damaged and At-Risk Properties from willing sellers.

As discussed in more detail in the Coastal Hazards section of this assessment, the February 2006 report, *Protecting Maine's Beaches for the Future - A Proposal to Create an Integrated Beach Management Program*, proposes the creation of a willing-seller acquisition program along Maine's beaches. In 2006 and 2007, the Coastal Program will be conducting an assessment to establish focus areas for this program and through the activities listed under Strategy 1 of the Coastal Hazards section, will be working to develop this initiative.

3. Review and develop recommendations on policy options to secure public rights in the intertidal zone.

a) *Program Change:*
This strategy will help MCP chart a course towards potentially increasing the geographic area in which the public has rights along the coast.

b) *Discuss the anticipated effect of the program change:*
This program change could result in increased opportunities for commercial and recreational use of the state's coastal resources by the public.

c) *Describe why the activity is the most appropriate means to address this issue:*
In 1989, Maine's highest court ruled that public rights in the State's intertidal zone are limited to "fishing, fowling and navigation" for commercial and recreational purposes. In so ruling, the

court declared unconstitutional a state law that interpreted public rights in the intertidal zone more broadly under Public Trust Doctrine principles. Public access to the coast for use of coastal beaches and other intertidal areas continues to be an issue which may reasonably be assumed to become more acute as pressures on coastal resources increase. Assurance of a firm understanding of the law in this area, including any subsequent interpretations or applications of comparable law and policy in Massachusetts and possibly other jurisdictions, is needed to guide development of options under current law or potentially revised law or policy for addressing public access needs in intertidal areas.

d) General Workplan:

FY06 - In consultation with the Maine Attorney General's Office, undertake a review of pertinent Maine law, including principally the Public Trust in Intertidal Land Act, the Court's Moody Beach decisions and subsequent Maine case law, and the law of other coastal states, particularly that of Massachusetts and others that recognize private ownership of intertidal areas, to clarify the nature and scope of public rights in Maine's intertidal and beach areas.

FY06/07 - Coastal staff at SPO will develop a menu of policy options for securing public rights in intertidal and beach areas of importance now and for the future, potentially involving the dissemination of information to educate state and local decision-makers and the public about the nature and scope of public rights in the intertidal zone, land use acquisition through new or existing state programs, and enactment of pertinent legislation.

e) Summary of Costs:

FY 06: $4,000

f) Likelihood of Success:

Unknown

Strategies to be funded by CZMA Section 306 monies

Continue, and increase, Maine Coastal Program efforts with state agencies, municipalities, and non profits that work on coastal water access:

- Provide support to the Land for Maine's Future Program on a wide range of water access projects, including the acquisition of land for boat access sites and seaside parks, trails, and scenic areas; assist with policy and planning development that facilitates the acquisition of coastal lands for public access, such as the Maine Coast Protection Initiative. The MCP provides a .5 FTE contribution as a current effort in the 306 program area and needs to keep up this level of support.

- Continue to assist DOT with the SHIP by serving on the grant review committee; and on the Public and Recreational Access to Water Crossings Committee; and provide project coordination services through the Coastal Water Access Working Group to link highway projects with DOC, IF&W, municipalities, land trusts, and access advocates.

- Work with LMF, DOC, DMR, DOT, municipalities, and land trusts to develop a program to proactively identify sites suitable for coastal water access. The following steps are recommended: 1) Appoint or hire a state staff person(s), or hire a contractor, to work proactively on public water access sites; 2) identify towns and groups that are interested in creating or improving public access sites; 3) determine the availability of suitable land and the most appropriate type of access (boat launch, carry-in, bank fishing); 4) create and maintain a database of information on current State owned or assisted boat access sites; and 5) seek cooperating entities that will agree to become title holders and managers of public water access sites.

- Track the progress and monitor the effectiveness of the Working Waterfront Access Pilot Program.

- Needs Assessment - Support efforts of DOC and IF&W to update the State's access priority report, informed by the results of a user survey and needs assessment.

Strategies to be supported by USEPA BEACH ACT funding through the Maine Healthy Beaches Program

- Assess structure and function of current program to determine if the needs can be met with the current capacity

- Develop policies to best identify roles and responsibilities for Program partners to fill when a threat to public health is identified

- Build structure to house the MHB at an appropriate agency that can best address the public health threats

- Develop a statewide quality assured program that protects public health at all of Maine's beaches

- Develop funding mechanism to support MHB in the event that federal funding is no longer available, including funds to support the investigation of pollution sources.

Coastal Hazards: Assessment

Section 309 Programmatic Objectives

I. Direct future public and private development and redevelopment away from hazardous areas, including the high hazard areas delineated as FEMA V-zones and areas vulnerable to inundation from sea level rise.

II. Preserve and restore the protective functions of natural shoreline features such as beaches, dunes, and wetlands.

III. Prevent or minimize threats to existing populations and property from both episodic and chronic coastal hazards.

Resource Characterization

1. Characterize the general level of risk in your state from the following coastal hazards

Hazard	Risk Level
Extra-tropical storms	High
Storm Surge	High
Flooding	High
Shoreline Erosion	High
Sea Level Rise	High
Hurricanes/typhoons	Medium
Coastal Bluff Erosion	Medium
Subsidence	Medium
Geological Hazards including Earthquakes and Tsunamis	Low
Landslides	Low

2. If the level of risk or state of knowledge about any of these hazards has changed since the last assessment, please explain. Also, identify any ongoing or planned efforts to develop quantitative measures for this issue area.

The level of risk in these areas has remained essentially unchanged since the last assessment. Chronic areas of erosion are still experiencing problems. Risk to individual properties increases with time as dunes erode and the shoreline migrates slightly inland in response to sea level rise. Mapping and topographic analyses by the Maine Geological Survey (MGS) led to quantifying the erosion hazards, flood inundation levels, and management needs for beach and dune areas along the coast. The following identifies work in specific issue areas.

Hurricanes/Typhoons

In 2005, the US Army Corps of Engineers released the results of its Hurricane Storm Surge Inundation Maps for *high-tide landfalls* based on SLOSH model results. The new maps and Geographic Information System (GIS) coverages allow Maine to refine its state and county emergency management plans in terms of evacuation routes and hurricane response planning. The Maine State Hazard Mitigation Plan was revised in 2004 to include and disseminate the risk of flooding in hurricanes based on *mean-tide landfalls*. These maps are used by the Maine Emergency Management Agency (MEMA) and by County Emergency Management Agencies as a disaster response-planning tool. A goal of the revised state plan is to have municipalities revise local floodplain ordinances based on hurricane flood levels.

Storm Surge

Models of storm surges from hurricanes making landfall at two different tidal conditions are now available. No similar modeling and inundation analysis of extra-tropical storms has been completed. Flood Insurance Rate Maps (FIRM) are the best proxy for surge levels in a 100-year storm (most likely a northeaster) but existing paper map boundaries are not well georeferenced, many are out-dated, and digital FIRMs in Maine lack the detail of paper maps.

Flooding

The Maine Floodplain Management Program (FMP) at the State Planning Office is currently working with Federal Emergency Management Agency (FEMA) to update the 100-year base flood elevation FIRMs and a Maine Map Modernization Business Plan was created in 2005 with consideration of coastal erosion information supplied by MGS. The business plan identifies coastal York and Cumberland Counties as the first areas for remapping.

Shoreline Erosion

Since the last assessment, MGS quantified shoreline change rates for the majority of Maine's sandy beaches using historical aerial photographs of approximate decadal intervals from the 1960s-2003. MGS has also identified various physical characteristics of the beach systems that have been developed in a GIS and used to create a generalized Beach Scoring System that identifies areas of beach management need. An example of this work is available on the MGS web site for Saco Bay. In 2005, MGS received NOAA 309 funding to begin establishing the Maine Beach Monitoring Program (MBMAP) to complement the existing State of Maine Beach Profiling Project (SMBPP), a volunteer-based Sea Grant-funded initiative. The purpose of MBMAP is to establish the biannual collection of beach profile data. The data will be used to help quantify short-term fluctuations and sediment budgets for regulatory purposes including Erosion Hazard Areas (Ch. 355) and for beach nourishment.

Sea Level Rise

In 2005 the Maine Geological Survey conducted a pilot study on a small area within the Wells National Estuarine Research Reserve to investigate the impacts of simulated changes of static sea level on floodplains, uplands, and coastal wetlands. This study was funded by NOAA 309 funds. Future simulations of the effects of a static sea-level rise on different areas of the Maine coastline should be undertaken to identify wetland transgression, future flood-prone areas and to adjust emergency routes. The static flooding analysis also has direct application to the revised definition of

the Erosion Hazard Area (EHA) in the Coastal Sand Dune Rules (CSDR) which includes references to anticipating sea level rise of 2 feet over the next 100 years. Using the GIS, NOAA LIDAR data, and recent orthophotographs, MGS developed data for EHA analysis that now incorporates (a) wetland incursion into the dunes after 2-feet of sea level rise, (b) static A-zone flooding vulnerability with site details not available from FIRMS, (c) projected A-zone flooding after 2-feet of sea level rise, and (d) vulnerability of the frontal dune to V-zone overtopping under current conditions.

The CSDR also allow for a dynamic change in dune morphology due to erosion and accretion. The original standard requires projects to account for shoreline change within 100-yrs after 2 feet of sea-level rise. Historical shoreline change data (309 funds) are used to project inland dune and flood zone migration at historical rates in some locations. Sand budgets are not known with sufficient detail at the present time to project an acceleration of shoreline erosion or dune migration for use in permitting under the CSDR. In this case, the sea-level rise policy leads the scientific data available.

Geologic Hazards

After the December 2004 tsunami struck Indonesia, MGS conducted some research on past and possible future **tsunami** activity within the Atlantic Ocean and the Gulf of Maine. MGS completed an informational "website of the month" for January 2005 which discusses past (and future) tsunami activity. This information was used in 2005 for the State Hazard Mitigation Plan. The Maine Geological Survey continued to map coastal bluffs and landslide hazards along the Maine coast since the last assessment with support from the MEMA and MCP. About 70% of the coast is mapped from Kittery to Addison (east of Bar Harbor). Two companion maps, Coastal Bluffs and Coastal Landslide Hazards, have been distributed to municipalities and DEP. Revised in 2005, the MGS web site now includes bluff information, guidance for development and remediation and allows access to view or download the bluff or landslide maps and GIS data.

3. Summarize the risks from inappropriate development in the state, e.g., life and property at risk, publicly funded infrastructure at risk, resources at risk.

Since the last assessment the Coastal Sand Dune Rules (CSDR) have been applied in a manner that leads to more sound development in suitable locations away from coastal hazards. A Section 309 supported study by J.M. Knisel (2003, Hazardous Beach-System Development in Maine and Some Outcomes of the Sand Dune Rules, M.S. Thesis in Marine Policy, Univ. of Maine, Orono, 71 p.) determined that repetitive losses from flooding in coastal dunes were avoided by the 1988 CSDR and that hazard avoidance was accomplished by the regulations. The study also indicated that non-conforming development was subject to repetitive losses in high hazard locations of the frontal dune that were also either in the V-zone or AO-zone flood hazard areas.

Management Characterization

For each of the management categories below, indicate significant changes to the State hazards protection programs since the last assessment. For categories with changes:

- Summarize the change;
- Specify whether it was a 309 or other CZM driven change and specify funding source; and
- Characterize the effect of the changes in terms of both program outputs and outcomes.

Management Measure	Significant Work Since Last Assessment	Source of Funding (CZMA Section 309 or other)
building setbacks/restrictions	yes	309 and state
methods for determining setbacks	yes	309 and state
repair/rebuilding restrictions	yes	309 and state
restriction of hard shoreline protection structures	yes	309 and state
promotion of alternative shoreline protection structures	yes	309 and state
beach/dune protection	yes	309 and state
permit compliance	no	n/a
inlet management plans	yes	CZMA 306

Building setbacks/restrictions

The State has provisionally adopted revised Coastal Sand Dune Rules (CSDR; Chapter 355 of NRPA). Revisions to the CSDR were developed by a legislatively approved Coastal Sand Dunes Stakeholder Group (stakeholder group) comprised of State agencies, NGOs, and local community stakeholder organizations. The stakeholder group revised the Coastal Sand Dune Rules (CSDR) to include new restrictions and ways to determine setbacks for development within the sand dune system. Revisions were considered at a public hearing by the Maine Legislature in February 2006 and adopted as Resolves 2005, Chapter 175. The revisions include: a new definition of future Erosion Hazard Areas, within which all development must be adequately elevated (i.e., on posts) to account for future flooding and erosion; shoreline changes within 100-years; reconstruction standards for buildings damaged (and not damaged) by wave action from an ocean storm, which require moving structures as far landward as practicable; and requirements for allowing sand and water movement. The CSDR also regulate development densities and provides specific requirements for frontal dune vs. back dune projects. New setbacks from coastal bluffs were established in a 2005 revision to the Mandatory Shoreland Zoning Act (Ch. 1000) administered by DEP. Based on map units in MGS Coastal Bluffs maps, the setback for new development is now determined by the position of the top of an unstable or highly unstable bluff rather than from the shoreline which usually coincides with the base of a bluff.

Methodologies for determining setbacks

The revised CSDR does not permit new construction within the frontal dune aside from certain minor exceptions and "infill" development at a limited number of lots along the coast. The newly defined EHA is used as a setback by locating areas of the dune system that may become a coastal wetland after a combination of short and long term erosion, and sea-level rise. It helps define areas where construction/reconstruction must be elevated to allow for natural movement of sediment and flooding. The revised CSDR requires movement of structures landward, as far as practicable, or at a minimum, reconstruction within the same footprint. To facilitate permitting and disclosure of the setback, in October 2005 MGS released on-line versions of the Beach and Dune Geology air photos.

Repair/rebuilding restrictions

The CSDR incorporate a revised definition of the V-zone (which now uses the effective FIRM or Letter of Map Amendment (LOMA) from FEMA) and provides revised guidelines for construction and reconstruction after storm damage within the V-zone. The CSDR have been revised in order to

accommodate safer development practices along the shoreline, while at the same time limiting some previously allowed rebuilding activities within the coastal sand dune system. The new CSDR do provide several provisions that allow an applicant to apply for a variance from certain standards.

Restriction of hard shoreline protection structures

The CSDR were revised by the stakeholder group to clarify which temporary and permanent emergency actions to seawalls are allowed without a permit under a proposed revision to 38 M.R.S.A. §480-W. This required changes to both the CSDR and to the text of 480-W. Revisions were considered at a public hearing by the Maine Legislature in February 2006 and adopted as Resolves 2005, Chapter 175.

Promotion of alternative shoreline stabilization methodologies

The revised CSDR includes a new section providing regulatory guidance on the use of beach nourishment and dune restoration. New text in the CSDR also allows a homeowner to move a seawall landward to minimize impacts on the coastal sand dune system.

Renovation of shoreline protection structures

See the preceding two sections above with reference to new text in CSDR and proposed 480-W. Existing shoreline protection structures can be repaired/replaced in their existing position and in their existing dimensions through a DEP Permit-by-Rule.

Beach/dune protection

The 2nd Regular Session of the 121st, Maine Legislature passed PL 2003, Resolve 130 directing the formation of a stakeholder group to work together to improve the management and stewardship of Maine's beaches. The "Framework Agreement on Sand Dunes and Coastal Management in Maine" had eight signatories, including the State Planning Office (SPO), the Department of Environmental Protection (DEP), Department of Conservation (DOC) and five stakeholder organizations. *Protecting Maine's Beaches for the Future: A Proposal to Create an Integrated Beach Management Program was* submitted to the Joint Standing Committee on Natural Resources in February, 2006. Aside from the rule and statute changes discussed in other sections of this management characterization, the Legislature was not asked to act on other provisions of the report. Rather, they signaled their interest and support of this broad new policy approach that directs state agencies, landowners, NGOs and others to work together to proactively manage beaches. The report includes recommendations on beach nourishment, habitat management, acquisition of property from willing sellers, hazard mitigation, data and mapping and education and outreach. A specific implementation plan and funding strategy will direct the work of state agencies and others in the coming years.

Inlet management plans

MGS provides ongoing consultation with the US Army Corps of Engineers (Corps) for the management of federal channels, inlets, and harbors. Evaluation by MGS includes analysis of environmental impacts of dredging on surrounding shorelines and abutting properties in the sand dune system and in the vicinity of coastal bluffs. MGS and DEP were directly involved in making sure that material from federal dredging of the Scarborough River was placed on Western Beach for nourishment, which in this case, was the best possible placement of dredged material. This project

resulted in about a four-fold increase in dry beach area, creating new nesting habitat for piping plovers and least terns (that was colonized in the first nesting season).

The Saco River inlet and federal jetty system is the most significant inlet management area in the state. The Saco Bay Implementation Team (SBIT), chaired and led by the MGS, is convened regularly as information and results become available from the Corps on their studies, engineering designs, and alternatives analysis. The SBIT has been very influential with the Corps and City of Saco with analysis and scientific scrutiny of the Corps' work and proposals. In a parallel track, Maine's Congressional Delegation worked in Congress to remove the $5 million cap in Section 111 for Saco (when it became apparent that federal mitigation limits were insufficient for any solution). The delegation is currently positioned to have $20-25 million appropriated to the Corps in the Water Resources Development Act pending in Congress. Both the Scarborough and Saco river channels are maintained by the Corps. Inclusion of these federal projects in the Corps' Regional Sediment Management initiative would allow for better management of Saco Bay's beaches.

Public education and outreach

In this assessment period, MGS significantly enhanced the educational and outreach aspects of its program in October 2005 with the launch of a new web site containing new content and products on coastal geology and hazards. These changes were the culmination of work accomplished in the last five years. Finally, the current 309-funded project for MGS development of the Maine Coastal Atlas will result in numerous documents on public education and outreach, including a Guide to Managing Maine's Beaches (aimed at homeowners), an annual State of the Beaches Report, and the Maine Coastal Atlas, a clearinghouse for GIS coastal hazards data. These materials will be available at the MGS web site and follow guidance developed by the stakeholder group and Maine Legislature.

The Coastal Program continues to be a supporter of the Maine Beaches Conference, held biannually in southern Maine. The 2005 conference attracted close to 200 homeowners, other interested members of the public, regulators and policy developers. The conference showcases the latest information on coastal hazards data, informs the public about regulatory changes and provides information about what homeowners can do to decrease their risk of property damage from coastal hazards.

Mapping/GIS/tracking of hazard areas

Since the last assessment, Maine has updated its GIS abilities to map and track changes of shoreline hazard areas using old aerial photographs. MGS received state funding to construct the Nearshore Survey System (NSS), a personal-watercraft based bathymetric survey system. The first use of NSS has been to aid the City of Saco in measuring short-term dune erosion rates in a high hazard area with significant public infrastructure and annual storm damage repair expenses. Additionally, the State of Maine Beach Profiling project, a volunteer based program that uses the Emery-method of beach profiling to conduct monthly cross-shore profiles, has continued annually since 1999. The project was updated so that volunteers have the ability to enter and view the beach profile data online.

MGS created a Beach Scoring System to help identify physical characteristics of the beach in a GIS, and to help guide management decisions. This was a 309-funded project (see the Shoreline Erosion section above). Finally, MGS worked to identify areas "Erosion Hazard Areas," prior to the revised

definition provided in the 2005 CSDR. This project predicted where the shoreline would be in 100-years using historic shoreline change rates. This 309-funded project led to improvements in the 2005 definition of EHA in the CSDR.

Other – Special Studies

A joint planning effort (Section 309-funded) between SPO and the University of Maine was completed in the work of Knisel (2003) mentioned earlier in the Coastal Hazards Characterization section of this document.

3. Discuss significant impediments to meeting the 309 programmatic objectives (e.g., lack of data, lack of technology, lack of funding, legally indefensible, inadequate policies, etc.)

The largest impediment to meeting 309 objectives is the lack of funding for implementation of the recommendations of the *Protecting Maine's Beaches for the Future* report. An initial estimate is that Maine needs between $3 million and $6 million annually for an integrated program of dune restoration, beach nourishment, property acquisition and hazard mitigation.

Availability of a uniform and comprehensive data set of geological information for hazard identification and regulatory use is another major impediment. Sound scientific data that meets CSDR standards are essential to support MGS project analyses for DEP, for environmental gain, to avoid siting new development in hazardous locations, and for municipal beach management. The largest challenge is to provide a sound scientific basis for projecting shoreline changes and dune migration 100 years hence with a 2-foot sea level rise.

Impediments for dealing with shoreline erosion currently include data limitations and funding. The SMBPP provides temporally (monthly) adequate data for determining short-term shoreline change, but is not currently spatially adequate in a cross-shore or alongshore sense. The MBMAP data that will be collected will be spatially adequate in a cross-shore and alongshore sense, but will be temporally limited (biannually). Combining these two data sets in the future will allow Maine to deal with the data limitation problem. Impediments include continued funding for SMBPP and MBMAP.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

- Maine has established a new policy directive for protection of sand dune systems that involves beach nourishment, land acquisition, hazard mitigation, data and mapping and education and outreach. Funding needs associated with implementation of this approach are considerable and have yet to be secured.

- There is a need for simulations to identify existing flood-prone areas and those that will become flood-prone after 2 feet of sea-level rise is taken into account.

- There is a need to develop models and inundation analysis for storm surges from extra-tropical storms that affect Maine. FIRMs are the best proxy for surge levels in a 100-year storm (most likely a northeaster) but existing paper map boundaries are not well georeferenced, many are out-dated, and digital FIRMs in Maine lack the detail of paper maps.

- There is a continuing need for public education materials on coastal hazards in Maine.

2. What priority was this area previously and what priority is it now for developing a 309 strategy and designating 309 funding and why?

Last Assessment	This Assessment
x High	x High
_____ Medium	_____ Medium
_____ Low	_____ Low

Coastal hazards and hazard avoidance continue to be a high management priority in Maine. The coastal population has continued to grow rapidly in southern Maine and the density and value of coastal development has increased dramatically in southern Maine in the last five years. These trends are expected to continue and require a greater level of state management to avoid development in high hazard areas and to protect fragile coastal resources. Continued coastal growth places additional strain on already limited state resources. While Maine government is beginning to realize the importance of its sandy beaches for their numerous environmental and economic benefits, budget constraints continue to limit state expenditures for staff and program objectives. Continuing to address coastal hazards, such as erosion, flooding, and sea level rise in a proactive way through 309 funding will enable Maine to support effectively the new CSDR and to preserve vital coastal resources.

Coastal Hazards: Strategy

Strategies to be funded by CZMA Section 309 monies

1. Create a New State Investment Program for Management of Maine's Beaches.

a) Program Change:
The 2nd Regular Session of the 121st, Maine Legislature passed PL 2003, Resolve 130 directing the formation of a stakeholder group to work together to improve the management and stewardship of Maine's beaches. The "Framework Agreement on Sand Dunes and Coastal Management in Maine" had eight signatories, including SPO, DEP, DOC and five stakeholder organizations. Following 18 months of intensive work with this stakeholder group, *Protecting Maine's Beaches for the Future: A Proposal to Create an Integrated Beach Management Program* was submitted to the Joint Standing Committee on Natural Resources in February, 2006. The Legislative committee signaled their interest and support of this broad new policy approach that directs state agencies, landowners, NGOs and others to work together to proactively manage beaches. The report includes 31 recommendations on beach nourishment, habitat management, acquisition of property from willing sellers, hazard mitigation, data and mapping, education and outreach and new funding sources that will eventually cumulatively comprise the new "integrated beach management program." The creation of the new Integrated Beach Management Program will require additional data collection and analysis, estimation of program costs and priorities, convening and staffing the Beaches Advisory Group, conducting public outreach and creation of a funding proposal for submittal to the Maine Legislature.

b) What is the anticipated effect of the program change:?
Maine's new policy direction for management of Maine's beaches is characterized by proactive interaction among state officials, property owners, municipalities and others for improved management and restoration of Maine's beaches. While we have a vision that includes dune restoration, land acquisition, beach nourishment in selected locations, we lack a source of state matching funds for this work. The creation of a Beach Management Fund at the state level will allow for physical restoration work, additional data collection, land acquisition, and technical assistance to Maine towns.

c) Describe why this activity is the most appropriate means to address this issue
Appropriateness of Program Change: The proposed creation of a state investment program for Maine's beaches is perhaps the most appropriate means to address the priorities listed in the assessment because lack of additional funds impedes substantive work on any of the recommendations included in the *Proposal to Create an Integrated Beach Management Program.*

d) General Workplan and Summary of Estimated Costs
Create and provide staff support to a Beaches Advisory Group. This group will oversee creation of the *Integrated Beach Management Program*, will propose new sources of state funding, and will advise on priority investment areas and decision-making criteria and rules for the new program.

The Advisory Group will generate an annual *State of Maine's Beaches Report* for the Maine Legislature.

FY 06 $10,000

FY 07 $10,000

FY 08 $10,000

FY 09 $10,000

FY 10 $10,000

Conduct Economic Analysis of Southern Maine Beaches. Work with the new Center for Tourism Research at the University of Maine, southern Maine Chambers of Commerce, towns and other NGO partners to create and publish an economic analysis of southern Maine beaches to 1) support the development of a new funding source for beach management, and 2) help create priorities for state investment in selected locations

FY 06 $15,000

FY 07 $15,000

The *Proposal to Create an Integrated Beach Management Plan* laid out some initial priorities for state investment based on existing information and suggested a framework for a decision-making process for allocation of funds. Additional work needs to be done to identify specific areas most amenable to the types of techniques we propose and to formalize the decision-making framework. With the economic justification described in 2) above, and the priority assessment described here, a proposal for state funding for beach management will be introduced to the Maine Legislature.

FY 06 Work with state agency partners to identify focal areas for dune restoration, beach nourishment, habitat enhancement, and land acquisition through additional data gathering and analysis - $25,000

FY 07 Formalize decision-making criteria and mechanisms - $25,000

FY 08 Develop, propose and work towards passage of a Beach Bond or alternative mechanism for state investment in beach management priorities - $25,000

FY 09 Advertise and distribute beach management project funds - $25,000

FY 10 Advertise and distribute beach management project funds; and evaluate beach management projects and provide report to the Maine Legislature - $25,000

The policy directive established in the *Protecting Maine's Beaches for the Future,* and included in the changes to the Coastal Sand Dune Rules is that state investment in sand beaches (through beach nourishment, dune restoration, etc.) warrants some formalization of public access and recreational rights. Determining how these rights would be established and through what mechanisms are issues that remained unsettled at the termination of the stakeholder process, due to private ownership of property to mean low water, private ownership of dry sand beach and limited public rights in intertidal areas.

FY 06 Undertake a legal analysis to document requirements for public access on state nourished beaches - $5,000

FY 07 Incorporate the above mechanisms into rules or guidance associated with the new state investment program for beach management - $5000

Maine beachfront homeowners have not been introduced to the concepts contained in the *Proposal to Create an Integrated Beach Monitoring Program.* Building acceptance of and support for use of new techniques, nourishment, restoration, hazard mitigation and acquisition will require additional outreach and education, using new methods. The workplan element includes a collaboration with Maine Sea Grant, to conduct a social marketing analysis and to develop an education and outreach program aimed at increasing Southern Maine beach homeowners acceptance for and use of hazard mitigation, beach management best management practices and compliance with environmental laws. Information obtained through this analysis will be used to design a campaign of support for the beach bond or alternative funding source.

FY 06	$10,000
FY 07	$10,000
FY 08	$7,500
FY 09	$7.500
FY 10	$7,500

e) Summary of Estimated Costs:
See individual work plan components above.

f) Likelihood of Success:
Moderate – The stakeholders that prepared the *Proposal to Create an Integrated Beach Management Program* represent the most powerful and vocal of constituencies for sound management of Maine's beaches, including two citizens groups, one statewide environmental conservation organization, one national environmental advocacy organization and a major industry trade group. This coalition is posed to support the creation of a state funding source for beach management. Likewise, there are several related efforts underway in Maine – Governor Baldacci's natural resource-based economy initiative, the Department of Conservation's investment program for state parks, and a Brookings Institution analysis that may bolster the concept of investing in "green infrastructure". Meetings of the Beaches Advisory group (as discussed above) and continuing outreach to municipalities and others will help maintain and build support for this program change.

2. Integrate data from the Maine Beach Monitoring Program into regulatory decision-making, policy development, and into reports to the Maine Legislature.

Continued beach erosion studies are needed to improve data that supports Natural Resource Protection Act (NRPA) decision-making and define regulatory boundaries of the Coastal Sand Dune Rules (CSDR). MGS has previously developed a database of historical shoreline change rates. The State of Maine Beach Profiling Project (SMBPP) collects monthly data on beach elevations and berm conditions related to short-term erosion. These data will be enhanced by the Maine Beach Monitoring Program (MBMAP, developed with NOAA 309 funds) which began with the establishment of locations for biannual beach monitoring in both cross-shore and alongshore directions during FY2006. The data from these projects are invaluable for future state and local planning and management decisions as well as informing property owners of coastal hazards.

Traditional approaches to measuring (horizontal) shoreline change show no erosion at locations with seawalls, despite sand loss on the beach. One approach explored by MGS, and deserving further

analysis, is to define an ideal natural profile, and determine what the position of the natural dune crest and shoreline would be in the absence of the seawall. Then, using erosion rates calculated from natural beach nearby, or from profile lowering measured from a time series of LIDAR transects, the shoreline and dune profile would be projected inland. This calculation would serve as an index of shoreline instability and vulnerability for extreme damage to the dunes and coastal development in a 100-year storm. It would also serve to identify areas most in need of improved dune management and possible restoration. Post-disaster rebuilding plans and building relocation efforts could be guided by this information. The outcome of this erosion analysis could lead to revised policies or a program change, broader application in other states, or improved V-zone delineations by MEMA/FEMA in Maine.

a) *Program Change:*
Expedited reviews of NRPA CSDR permit applications and streamlined permit processing related to regulated Erosion Hazard Areas.

b) *Discuss the anticipated effect of the program change or implementation activity:*
Improved disclosure of shoreline characteristics and Erosion Hazard Areas (EHAs) for the CSDR. The information produced is needed by the Department of Environmental Protection to advise applicants how to file their project – either as Permit by Rule or a full NRPA permit application. This information is not readily available and must currently be determined by MGS on a labor-intensive case-by-case basis. This effort will also support implementation of the 2006 legislative report *Protecting Maine's Beaches for the Future* by generating data to be used by the Beaches Advisory Group that reports annually to the Maine Legislature.

c) *Describe why this activity is the most appropriate means to address this issue:*
Short-term erosion rates must be calculated by precise methods that will withstand professional scrutiny and legal challenges. Without accurate data, regulatory boundaries of EHAs are subject to ongoing challenges that result in increased staff time per project and the public perception of being regulated based on opinion rather than fact.

d) *General Workplan:*

FY 06: Complete establishment of MBMAP base benchmarks and begin collection of additional geological data on shoreline change along dunes, vertical changes in beach profiles and process it for calculating short-term erosion rates for implementation of the July 15, 2006 (Ch. 355) CSDR definition of EHA; build a data archive; add data to the MGS Beach Scoring System GIS application; release results to the public on MGS web pages; develop a Guide to Managing Maine Beaches.

FY 07: Continue with data collection tasks in FY06 work plan in order to complete a 12-month record of beach and dune changes and to fill in data gaps; revise and refine short-term EHA values for shoreline segments for DEP pre-application use and permit processing for the 2006 CSDR; analyze data and write a State of the Beaches Report for distribution to the Beaches Advisory Group and Maine Legislature; seek FY 08 state funding for a marine geologist position and data collection efforts through state government.

FY 08: Collect alongshore and cross-shore beach measurements of sand elevations and seaward dune edges; evaluate methods for measuring sand elevations seaward of seawalls for vertical erosion calculations; analyze trends in MBMAP and SMBPP

data; update dune boundaries as needed; write a State of the Beaches Report for distribution to the Beaches Advisory Group and Maine Legislature; seek additional partnerships to financially support MBMAP.

FY 09: Repeat shoreline change measurements as in FY 08; add shoreline areas where data gaps are prominent; manage data archive; recalculate short-term erosion rates; write a State of the Beaches Report for distribution to the Beaches Advisory Group and Maine Legislature.

FY 10: Continue FY 09 data collection efforts with added emphasis on characterizing single-event storm erosion and recovery trends along all major beach systems based on the last 4 years of data; compare and contrast beach dynamics in natural and engineered locations; write a State of the Beaches Report with a section on the impact of seawalls on the coastal sand dune system.

e) Summary of Costs:

FY 06: $0 (included in Strategy 4 below)
FY 07: $38,400
FY 08: $48,600
FY 09: $42,900
FY 10: $45,300

f) Likelihood of Success:

The likelihood of success is high since MGS currently has all the field equipment to conduct shoreline and cross-shore surveys, and also has access to SMBPP data through the Shore Stewards web site. In the past MGS has achieved similar objectives within the designated time frames. With broad availability of this information, DEP and permit applicants will be able to make permit application decisions without waiting for an Advisory Opinion from MGS, thus streamlining the permit process.

3. Update Maine's regulatory boundaries in the coastal sand dune system in the MGS geographic information system and generate new map products.

MGS will update its existing Beach and Dune Geology Aerial Photos, which define the frontal and back-dune regulatory boundaries for the CSDR permitting. This product is based on initial work conducted 20 years ago and needs to reflect shoreline and dune changes and also be georeferenced for the first time. This update process will need to be revisited at approximately five-year intervals (next beginning in FY 10) to keep the information current. MGS will also map the location of the newly defined 2006 CSDR Erosion Hazard Area onto recent orthophotographs (data was concurrently generated in Section 2 above). These two mapping efforts are essential cornerstones to the Natural Resources Protection Act, DEP permitting, and public disclosure of coastal hazards. The Maine Coastal Atlas (Strategy 4 below) will serve as a clearinghouse for GIS data relating to Maine's coastal hazards.

a) Program Change:

New map products that define regulatory boundaries will be generated that replace 20-year old maps. These maps are used by DEP and applicants in every permit decision in the CSDR of the Natural Resources Protection Act.

b) Discuss the anticipated effect of the program change or implementation activity:
The best available information will be used in permit decisions and will be available for coastal management decisions for hazard mitigation, regional planning, and real estate disclosures. Widespread availability of this information will expedite the permit process and save DEP and MGS staff time on each application.

c) Describe why this activity is the most appropriate means to address this issue:
The information generated is geographic and most effectively portrayed in GIS-generated maps for NRPA permit tracking, public consumption of hazards information, and further enables GIS analysis related to the 2006 legislative report Protecting Maine's Beaches for the Future.

d) General Workplan:

FY 06: Begin assembly of coastal hazard data that is required for creating and updating maps.

FY 07: Work with new data generated in Strategy 2, above, to analyze the geomorphology of the frontal dune and back dune topography; synthesize short-term (Strategy 2 above) and long-term erosion rates (from the FY 05 MGS Beach Scoring System); apply best available wetlands boundaries from a 2-foot sea level rise (Strategy 5 below) to produce new MGS Open-File maps and GIS coverages for the 2006 CSDR.

FY 08: Refine EHA coverages based on the outcome of FY 07 sea level rise analyses of the incursion of 2 feet of sea level rise on the coastal wetlands (highest annual tide; Strategy 5 below); release new EHA boundaries on MGS Open-File maps.

FY 09: Update EHA boundaries in the GIS and MGS Open-File maps; coverages based on the outcome of FY 08 sea level rise analyses of the static incursion of 2 feet of sea level rise on the V-zone and AO-zone flood hazard areas (Strategy 5) and any new digital FIRMs generated by FEMA and the Maine Floodplain Mapping Program's Map Modernization effort.

FY 10: Remap the frontal dune and back dune regulatory boundaries with new LIDAR or CHARTS data; generate maps of the inundation expected from 2 feet of sea level rise to the coastal wetland (annual floodplain), and floodplains (V-zone, AO-zone and A-zone) for NRPA policy review and MEMA State Hazard Mitigation Plan.

e) Summary of Costs:

FY 06: $0 (included in Section 4 below)

FY 07: $44,200

FY 08: $28,200

FY 09: $22,700

FY 10: $23,900

f) Likelihood of Success:
The workload is prioritized and spread over several years to provide initial maps for regulatory use within a year of the 2006 CSDR and to improve and refine the data used in the regulatory boundaries in subsequent years. Each of the efforts to remap and update the GIS data requires a substantial work effort in geological analysis of large data sets. This series of steps will lead to

successful release of MGS products in a timely way while continuing to use best available information in the next few years as it is generated by other related Coastal Hazards strategies.

4. Continue to develop public education tools to support hazard policies and Coastal Sand Dune Rules.

As discussed in the Assessment, public education and outreach is a critical part of the success of the new policy document governing beach management. Ongoing coastal hazards analysis, documentation, reports, maps, and illustrations need to be distributed to government agencies and individuals through efforts at MGS. Maine's strategy includes the development of the GIS-based Maine Coastal Atlas, A Guide to Managing Maine's Beaches, the State of the Beaches Report, and other public information released through the MGS web site.

a) Program Change:
Provide a virtual home for the Maine Beach Management Program in the form web pages hosting the Maine Coastal Atlas. The web-based Atlas will provide information and products in support of a new and growing initiative to manage better Maine's beaches. The Atlas will include coastal hazards that form the basis for existing and future policies and regulations. There will be disclosure and distribution of materials for expedited permit decisions, an inventory of coastal engineering structures, GIS layers that can be used to measure and track development, and scientific data for regional beach management and planning (for beach nourishment projects for example).

b) Discuss the anticipated effect of the program change or implementation activity:
This program has the potential to be the biggest improvement to coastal hazards management ever designed for the Maine Coastal Program. The rising demand for information cannot be met through an increase in government staff but outreach can be achieved with technological advances in geospatial data presentation and capability for custom mapping and data downloads. This effort is in tandem with NOAA Coastal Services Center outreach efforts at the national level and is based, in part, on that model and those in other states.

c) Describe why this activity is the most appropriate means to address this issue:
This virtual home is the most cost-effective way to reach all coastal user groups from state and federal agencies to municipalities to beach associations to individual homeowners and real estate developers, realtors, banks, and insurance companies. Educational materials can be distributed nearly free of cost once they are developed. Ongoing costs are to maintain the system and to generate new products.

d) General Workplan:

FY 06: Continue to design data layers and data sets for the Coastal Atlas; evaluate software, license fees, and web hosting requirements; explore similar web internet mapping servers (IMS) and sites for concepts and capabilities of the system.

FY 07: Seek endorsement of the Beaches Advisory Group, and perhaps the Maine Legislature, for this concept; review the 2006 DMR marine GIS needs survey results; examine capabilities of other natural resources and IT capacity at state agencies; consider a partnership with DMR on data standards; initiate discussions with the NOAA Coastal Services Center for design, IT support, and data standards to be compliant with federal efforts; explore funding opportunities and partnerships with

the Gulf of Maine Ocean Observing System and other Gulf of Maine mapping and data distribution initiatives; compile and format data layers for upload into an IMS or similar web portal.

FY 08: Launch the Maine Coastal Atlas and maintain or enhance its capabilities.

FY 09: Seek partnerships in funding; add new data on regulatory boundaries and coastal hazards; maintain the site.

FY 10: Seek partnerships in funding; add new data on coastal hazards and sea level rise; maintain the site.

e) Summary of Costs:

FY 06: $53,100

FY 07: $11,700

FY 08: $22,200

FY 09: $40,400

FY 10: $41,000

f) Likelihood of Success:

Other states such as Ohio and Oregon and countries (e.g. the UK Channel Coastal Observatory) have launched similar web sites so the likelihood of repeating the technological success of other IMS sites is high. MGS has the capability as outlined in Sections 2, 3, and 5, to generate multiple relevant geospatial data layers to display and query via a web portal. The largest obstacle to success is to have the funding and IT services to host and maintain the site. With common interests at other state agencies and perhaps at the federal level, a plan and funding should be possible to arrange for a FY 08 launch. In the interim, MGS web pages will continue to host map products for download or online review as well as share appropriate GIS data with other user groups such as municipalities, MEMA, DEP, etc.

5. Simulate sea level rise in the Coastal Sand Dune System over the next 100 years to determine annual flood hazard areas and expanded 100-year coastal floodplains.

The FY 06 pilot NOAA 309-funded project that MGS completed for a study area in the Wells Reserve is a successful model for simulating future impacts of static sea level rise on coastal wetlands and identifying specific existing (and future areas of) coastal development at risk of flooding. Future years (FY 07 and 08) will expand the geographic extent of mapping a 2-foot sea level rise impact within the CSDR regulatory area for the 2006 Erosion Hazard Area definition (and use in Sections 3 and 4 above). In later years (FY 09) a 3-foot rise scenario will be simulated so it can be compared to the upcoming IPCC Fourth Assessment report with revised projections of sea level rise. This analysis and evaluation will be used as a foundation to address the spatial impact of any regulatory change in the coastal sand dune system. In a parallel effort, new digital flood insurance rate maps (DFIRMs) will become available for coastal counties as a result of Map Modernization. The need to use new DFIRM data was justified by MGS in an Open-File report that evaluated the impact of shoreline change along the beaches on coastal flood maps. In the final year, a dynamic model of future flooding will be explored with federal partners and other researchers as a static flooding

model on a beach is simplistic and unrealistically assumes that topography remains unchanged. Information collected in Section 2 will be available as input for this evaluation of dynamic beach modeling as sea level rises in Maine.

a) *Program Change:*
This work will implement two critical aspects of the CSDR definition of Erosion Hazard Areas. The EHA definition includes (a) areas that will become coastal wetlands with 2 feet of sea level rise and (b) areas subject to future flooding in V- and AO-zones after 2 feet of sea level rise. Both of these geographic areas require separate spatial and topographic analysis for the entire dune system in order to fulfill the EHA regulatory definition. Perhaps more significantly, the visual power of these results along with an anticipated revision by the IPCC to an accelerated rate and higher magnitude of sea level rise by 2100 will focus the Maine Coastal Program on the state-wide importance of expanding coastal polices and regulations to address sea level rise statewide, not just in the dune system.

b) *Discuss the anticipated effect of the program change or implementation activity:*
This information is now generated on a case-by-case basis for individual permits or, more often, in advance of permit submissions to DEP. There is great uncertainty from the applicant's perspective currently – with no way to know prior to an analysis by MGS if the development can be done, or if it can, how to design a building foundation, or whether to file a PBR or full NRPA permit application with DEP. This effort will improve the efficiency of permitting. MGS has used this information very successfully on a case-by-case basis to site redevelopment and new development in the least hazardous location on a dune lot. The pilot project results have already drawn the attention of the Maine Office of Energy Independence and Security, the Maine Floodplain Management Program, and the Maine Emergency Management Agency. An expanded geographic scope could enhance state reductions in greenhouse gas emissions to address the magnitude of future sea level rise.

c) *Describe why this activity is the most appropriate means to address this issue:*
This effort is a high-resolution spatial mapping effort that merges LIDAR data with FEMA floodplains and local wetlands elevations. The GIS pilot project demonstrated the efficiency of this approach and had an enormous impact on regulatory agencies and the public in disclosing coastal hazards from flooding. For regulatory use, the GIS data will be integrated into maps of EHAs for the CSDR and have additional application to MEMA for the analysis of emergency evacuation plans and at the local and county level in the redevelopment of coastal infrastructure.

d) *General Workplan:*

FY 06: Begin assembly of data required for projecting a static rise in sea level for additional geographic areas outside of the completed pilot project area.

FY 07: Expand the geographic extent of the 2-foot rise scenario to the rest of the coastal sand dune system using 2004 Coastal Services Center LIDAR or, if available, 2006 CHARTS data (from the US Army Corps of Engineers); generate georeferenced GIS line or polygon coverages for visual mapping of vulnerable areas; identify areas where public infrastructure may be compromised and affect emergency evacuation plans; export the GIS data to be used in Section 3 and 4 efforts to map EHAs and disclose future hazard areas for government and private sector planning.

FY 08: Expand on the previous effort to superimpose sea level rise of 2 feet on new Map Modernization (DFIRM floodplain) elevations for the velocity zone (V-Zone), washover zone (AO-zone) and still-water flood (A-Zone); map the static extent of floodplain migration and influence and generate new GIS data for use in Section 3 and efforts to map EHAs and disclose future hazard areas for government and private sector planning; include the results in a brief to MEMA, appropriate county emergency managers, and the Maine Legislature.

FY 09: Take the IPCC Fourth Assessment projections of sea level rise (assumed for discussion here to be approximately 3 feet and completed) and perform a sensitivity analysis to compare to FY 07 and FY 08 results in vulnerability and emergency management planning and discussion of CSDR revisions (if needed) by the Beach Advisory Group and Maine Legislature.

FY 10: Compile improved coastal sand budgets (from data in Section 2) and other studies to build local beach dynamic models of the potential for accelerated shoreline change (erosion and accretion) as a result of projected rates of sea level rise in the next 100 years compared to the historical rate of rise and shoreline adjustments; seek peer analysis and evaluation of methods and applicability for coastal management uses.

e) Summary of Costs:

FY 06: $49,800

FY 07: $15,800

FY 08: $26,000

FY 09: $19,200

FY 10: $18,500

f) Likelihood of Success:

The highly successful FY 06 pilot project proved that the expanded scope of this project will succeed. The methods and data density used by MGS were appropriate for this analysis and shed new light on geographic impact of the risk of sea level rise. The "annual flood maps" and areas subject to flooding as a result of sea level rise are already popular and compelling to the average citizen and featured as front-page news in Maine's largest newspaper. The state and homeowners can readily see if a particular property is all or partly flood prone. The MGS web site has released the FY 06 results as an Open-File Report with both web and PDF format.

Strategies to be supported by state funds

- Further develop the Beach Scoring System so that it incorporates new beach characteristics and can be used by the State to create a ranking of beach management need. Maine recognizes several different policy approaches to deal with shoreline erosion. Since shoreline stabilization is not an option under current Maine laws, future strategies include no-action (letting natural processes occur), beach nourishment/dune restoration, and property relocation/acquisition, or some combination of these approaches. The stakeholder group is working to address the use of these future strategies for shoreline erosion by developing a beach management policy document which will be submitted to the Maine Legislature in February 2006. The MGS Beach Scoring System will be updated with new characteristics that make it more accurate at predicting the

areas of shoreline that a) need beach management, and b) would benefit most from beach nourishment. This initiative will be funded by the state in FY2006. The state must also create similar scoring systems for both biologic and economic characteristics, so that those important factors may be taken into account. Timeline: 2007

- Ensure that structures in the regulated Coastal Sand Dunes that are repaired or rebuilt conform to the new regulatory standards of the revised CSDR. The new strategies for Repair and Rebuilding, as developed by the stakeholder group and outlined in the 2005 CSDR, allow existing structures to be retrofitted to new engineering standards. Revised regulations regarding the siting of new development will help improve natural functioning of the sand dune system. Guidance will be needed from MGS for siting or relocating buildings in relation to dune topography and for providing criteria that determines what topography and vegetation are sufficient in dune restoration. Timeline: 2007-2010

- Develop an inventory of engineering works in the coastal sand dune system. The changes proposed to 38 MRSA §480-W, along with the rewritten text of the CSDR, will guide the repair of shoreline protection structures. Without any record of structural renovations, there is no state-level oversight or knowledge of potentially significant changes to shoreline protection structures. Under a proposed change to the CSDR and 480-W, engineering specifications will now be required to be submitted to the State. An inventory of coastal engineering structures will help manage post-storm rebuilding. Timeline: 2007-2010

- Maintain and develop MGS web site as a public education tool. The MGS web site continually receives enhancements in coastal geology. Recent additions include posting the Coastal Erosion Assessment for Maine FIRMS and Map Modernization Plan and a site on coastal dune restoration at Willard Beach in South Portland. New Coastal Bluff maps and Coastal Landslide Hazards maps will be posted annually as new areas are mapped. Progress in coastal hazards and dune boundary delineations as outcomes of both 309- and state-funded efforts will be posted as they are completed. Timeline: 2007-2010

- Continue program to update floodplain maps. The Maine Floodplain Management Program (FMP) at the State Planning Office is currently working with FEMA to update the 100-year base flood elevation FIRMs and a Maine Map Modernization Business Plan was created in 2005 with consideration of coastal erosion information supplied by MGS. The business plan identifies coastal York and Cumberland Counties as the first areas for remapping. Timeline: 2006-2010

Ocean Resources:[1] Assessment

Section 309 Programmatic Objectives (from NOAA)

I. *Develop and enhance regulations, plans and government coordination to provide for effective ocean resource management and efficient decision-making.*

II. *Develop strategies and plans to balance the use and development of ocean resources; coordinate existing authorities; and minimize use conflicts. Ocean management strategies should consider, where appropriate, the effects of activities and uses on threatened and endangered species and their habitats. The designation of specific marine protected areas should be considered.*

Resource Characterization

The following section characterizes Maine's ocean resources, identifies issues and uses of state concern, and specifies existing and anticipated threats or use conflicts.

Resource or Use	Threat or Conflict	Degree of Threat High/Med/Low	Anticipated, Future Threat or Conflict
Marine Fisheries	Some fisheries are over harvested and many others are fully exploited at current levels of fishing effort.	High	Continued decline in fisheries threatens the structure and function of the Gulf of Maine ecosystem and the economic vitality of coastal communities. Increasing fishing pressure will continue to threaten stocks, other marine organisms and marine habitats. Coastal development will continue to impact water quality and fish habitat.

[1] "Ocean resources" is a broad term encompassing all the living and non-living "public trust" resources that are held by the state and managed on behalf of Maine citizens.

Ecological knowledge; monitoring and research	Research and monitoring programs target a small number of the marine species. Factors such as funding availability and source, resource status, management jurisdiction, value of the fishery, legislative mandates, and constituent interests determine the focus of state-sponsored research programs. Lack of information about marine resources delays/ inhibits the efficiency and accuracy of permitting decisions.	High	Resource harvesters, environmental groups and others continue to call for "area-based" and "community-based" management of marine resources. New and better data and information and additional staff resources will be needed to implement this type of approach. Implementation of ecosystem-based management approaches will require retooling & new information.
Use Conflicts	Continued negative ecological impacts result from both land and water-based activities. Negative social impacts occur when two or more user groups want to use the same space and/or when there are competing ideas about appropriate uses of the marine environment.	High	Competition between users is likely to increase as recreational and commercial markets expand. For example, rising recreational boat traffic may conflict with other uses such as aquaculture and commercial fishing. Large-scale energy & other projects may disrupt fixed gear locations, and restrict or ban harvesting.
Ocean Disposal of Dredged Materials	The interim approval of the Cape Arundel Disposal Site (CADS) expires in 2010. The State did not support final designation of CADS. There are no designated sites in Maine's more easterly waters. Ocean disposal is precluded or limited when dredged material is contaminated with pollutants such as PAHs, PCBs, and metals.	Medium	The lack of viable alternative(s) to CADS by 2010 could increase the cost for or to both public and private dredging projects in southern Maine and New Hampshire. Federal agencies' discretion regarding the appropriate testing for safe ocean disposal may create economic incentives to use sites in state waters, resulting in increased potential for local controversy.

	Public perceptions of risks associated with at-sea disposal, generates controversy, increasing the cost and complexity of dredging operations without commensurate environmental benefit. Changes in federal practices and federal budget constraints impede progress in addressing state dredging needs.		Growing demand for marinas and expansion of ports will require more attention to beneficial use or disposal sites for dredged material. An increase in dredging activity may cause real and perceived conflicts with other marine uses.
Estuarine and Marine Habitats	A variety of human activities alter marine and estuarine habitats (e.g., docks and piers, shoreline alteration, nonpoint source pollution, fishing practices, cable and pipeline development, etc.). While Maine's marine resources laws include the authority to implement harvesting closures and temporary closures for fisheries management, Maine lacks specific enabling legislation to enact broad-based marine protected areas.	High	There will likely be an increase in the intensity and complexity of proposals for development involving marine and nearshore habitat alteration. Conservation groups, the federal government and others will continue to call for the establishment of a network of marine protected areas as a method to conserve important habitats and rebuild fish stocks. Maine's proposed *Integrated Beach Management Program* proposes the use of beach nourishment as an erosion mitigation tool. Additional pressure on offshore sources of sand and gravel may result.
Working Waterfronts	Development and conversion of working waterfronts to residential and tourist-related development limits access for marine-dependent businesses and affects traditional communities.	High	Maine's Working Waterfront Initiative is new and unproven. Increasing pressure for coastal residential and tourist-related development may continue to threaten working waterfronts.

Management Characterization

Ocean management programs and initiatives developed since the 2001 assessment:

Program Element	Initiated/Completed Since 2001	309 Funding
Statewide comprehensive ocean management statute	No	N/A
Statewide comprehensive ocean management plan or system of Marine Protected Areas	No	N/A
Single purpose statutes related to ocean resources	Yes	Yes
Statewide ocean resources planning and working groups	Yes	Yes
Regional ocean resource planning efforts	Yes	Yes
Ocean resources mapping or information system	Yes	Yes
Dredged material management planning	Yes	No CZM staff involved
Habitat research, assessment and monitoring	Yes	Yes
Public education & outreach	Yes	Yes
Other - Pilot Projects	Yes	Yes
Other - Assessments and Reports	Yes	Yes

Summary of Management Changes

Marine Fisheries Management

Alternative Approaches to Management of Scallops. The Maine Department of Marine Resources (DMR) lead a multi-year, collaborative process to develop a management plan for a sustainable and economically viable fishery.

New management measures include:

- Enacted legislation to raise license fees to support a dedicated research fund. This will provide roughly $100,000 for research per year and provide information to inform additional management measures such as closed areas, gear modifications and resource enhancement.

- Enacted legislation to create a 13-member Scallop Advisory Council. The Council provides advice on expenditures from the research fund, and provides continued input to management discussions.

- Through rulemaking, the Department of Marine Resources:
  1) Increased the scallop minimum size from 3¼ inches to 3½ inches prior to the start of the 2002-2003 scallop season; further modified the scallop minimum size to 3¾, effective September 2003; again modified the minimum size to 4 inches. [effective December 2004]

2) Modified the requirements for dredge configurations in order to allow lighter gear (lighter gear is anticipated to reduce bottom impacts, prevent the harvest of smaller scallops and mitigate impacts on Essential Fish Habitat [EFH]). [effective 11/25/02]
3) Expanded the Cobscook Bay "cull before cut" rule statewide. This modification prohibits cutting of scallops before the catch has been culled of all those scallops below the minimum size. [effective 11/25/02]

Sea Urchin Management. The Department of Marine Resources led an intensive collaborative effort to improve management measures for this fishery. Measures included:

- Statutory changes to the management of the urchin fishery became effective as emergency legislation in May 2003. This legislation was a step toward managing the two sea urchin zones separately, as it allowed certain management measures (e.g. culling on bottom) to be applied in one zone (Zone 1) and not in the other. It is anticipated that biological benefits will be achieved from "culling on bottom" where a smaller percentage of short urchins are brought to the surface. The other management measure specifically for Zone 2 was a modification to the urchin drag to include an escape panel with 2-inch openings in the top of the drag to improve culling of small urchins. The rule-making for this modification was adopted in September 2003.

- In May 2004, at the Council's recommendation, the Department exercised its statutory authority to enter into rule-making to prohibit any new entry into the fishery (which normally takes place through a lottery allowing one new license for every ten that are retired) for the coming year in order to protect the fishery from imminent depletion.

- Through rulemaking, further limited the length of the harvest season for each Zone. In 2004/2005 and 2005/2006 seasons, the season was 10 days in Zone 1 and 45 days in Zone 2, reflecting the serious depletion of the resource.

Both the scallop and urchin fisheries management strategies were supported by 309 funds.

Penobscot Bay Collaborative. DMR developed an Internet-based Red Tide mapping tool that provides maps of shellfish closures resulting from Red Tide events. The tool was developed for a variety of users including the shellfish industry, general public, and scientific community. It provides access to both current closures and historical closures, results of biotoxin monitoring that can be overlaid on satellite imagery of ocean color and sea surface temperature (http://megisims.state.me.us/dmr_redtide/). This project was supported by NOAA/NESDIS.

Gulf of Maine Ocean Observing System. The Gulf of Maine Ocean Observing System became operational since the last 309 assessment. Partnerships between GoMOOS and the Department of Marine Resources have resulted in the initiation of new tools for fisheries management, specifically an interactive mapping tool for northern shrimp (http://www.gomoos.org/shrimp/). The purpose of this project was to bring together data on northern shrimp with environmental data that may affect the distribution and abundance of this species to better understand and manage this species. This project provides fishery scientists and managers, fishermen, and the general public with the ability to map the results of shrimp surveys and shrimp fishery sampling in the Gulf of Maine with

other data layers such as bathymetry, surficial sediment data, and satellite data. Additional enhancements have been identified for this tool as part of the Gulf of Maine Ocean Data Partnership.

State Fisheries Management Structure. Reforming Fisheries Management in Maine, a report produced in 2003 for the Department of Marine Resources and the DMR Advisory Committee, characterized the strengths and weaknesses of current management, gathered information about the structure and responsibilities of state commissions or boards in other states and identified options for alternative approaches to management in Maine. This information has been used to foster discussion among industry members, advisory committees and with the legislature. This project was funded with 309 monies.

Marine Habitat Protection

Designation of Protected Areas. In response to the work of watershed and community groups, two estuarine areas were offered special protection by the Maine Legislature. This project was funded with 309 monies.

- Salt Bay Shellfish Preserve – During the Second Session of the 120th Maine Legislature in Spring 2002, "An Act to Designate the Great Salt Bay Shellfish Preserve" was signed into law. The Salt Bay is an ecologically significant embayment within the upper watershed of the Damariscotta River Estuary. This designation is the first locally-initiated, permanent closure in the State. This protected area was established to better understand the structure, function and integrity of marine shellfish ecosystems and to improve research opportunities in marine ecosystems that have limited bottom disturbance.

- Taunton Bay – Public concern over the overexploitation of shellfish beds and general habitat alteration prompted local citizens to request, again through the Maine Legislature, a five-year ban on dragging in the Taunton Bay estuary (located in the towns of Hancock, Franklin and Sullivan in Downeast Maine.) The ban was instituted, via legislation, in 2000. A three-year assessment of Taunton Bay provided for a basin characterization, analysis of intertidal/subtidal benthic community structure, juvenile fish communities, waterbird/shorebird use, temporal variation in eelgrass distributions, and horseshoe crab breeding and movements. A dragging experiment was also conducted. Additional legislation in 2005 resulted in a continuation of the dragging prohibition through July, 2008 and a directive to the DMR to develop an area-based resource management plan by January, 2007.

Horseshoe Crab Management. In 2003, there had been a significant increase in the harvesting effort directed toward horseshoe crabs. Requests for permits during the summer of 2003 increased dramatically over that of past years. From 1998 through 2002, the numbers of horseshoe crab harvesters in Maine ranged from two to six. As of June 24, 2003, there were 46 permitted horseshoe crab harvesters in Maine.

Due to the vulnerability of the horseshoe crab population, DMR determined that an emergency closure was necessary to prevent the imminent depletion of the resource. The emergency closure was in effect for 90 days, beginning on June 27, 2003. The closure ensured that the crabs were protected during their spawning period, which is also when they are most vulnerable to harvest.

In the spring of 2004, a seasonal prohibition on taking horseshoe crabs from May 1 to October 30 was put into regulation. Information from a Section 309-funded census of the resource informed the Department's work with this species.

Development of Nearshore Habitat Information for Municipalities. Beginning with Habitat (www.BeginningwithHabitat.org) is a habitat-based landscape approach to assessing wildlife and plant conservation needs and opportunities. It is a cooperative effort of federal, state, and NGO partners to provide municipal officials, land trusts, and other conservation organizations with the most up-to-date wildlife and plant habitat information available for use in open space, conservation, and comprehensive planning efforts. The goal of the program is to maintain sufficient habitat to support all native plant and animal species currently breeding in Maine by providing a collection of maps and accompanying information depicting and describing various habitats of statewide and national significance. These maps and supporting technical materials provide communities and conservation groups with information that can help guide stewardship of valuable habitats. Since the last assessment, Beginning with Habitat has undertaken a process to compile and analyze near shore habitat information to identify coastal focus areas where there are a confluence of important near shore coastal resources. This process has included the development of new GIS data layers along with the compilation of existing GIS data layers. Once the analysis is complete, the maps will be reviewed by biologists and ecologists; focus areas descriptions will be developed; and the maps will be distributed to coastal towns as part of the Beginning with Habitat package. This project was funded with 309 monies.

Fisheries Restoration - Penobscot River. On June 25, 2004, Governor John Baldacci joined Secretary of the Interior Gale Norton and leaders from the Penobscot Indian Nation, PPL Corporation, and a coalition of non-profit conservation organizations, Penobscot Partners, to announce the parties' signing of a final agreement for restoration of the anadromous fisheries of the Penobscot River while maintaining hydropower production. The agreement was officially filed with the Federal Energy Regulatory Commission (FERC). The major components of the agreement call for: acquisition of PPL's Veazie, Great Works and Howland dams by a non-profit entity which will remove the Veazie and Great Works dams and build a state of the art fish passage at the Howland dam; installation of state of the art fish passage and enhanced power production at PPL's remaining dams on the lower Penobscot; and settlement of the parties' disputes regarding licensing of the hydro projects subject to the settlement.

In 2005-2006, FERC and DEP approved the power production increases called for by the settlement and parties subsequently withdrew pending appeals. At present, the non-profit entity which acquired an option to purchase the Veazie, Great Works and Howland dams is actively involved in fund-raising, outreach, and study efforts in preparation for acquisition and decommissioning of the projects as provided in the settlement.

Environmental Vulnerability and Sensitivity Mapping. Funding was provided to Maine DMR to assist in the purchase of up-to-date aerial photography to be used in coastal mapping updates, in particular eelgrass bed distribution. The project area for the updates extended from the eastern Casco Bay to the eastern Penobscot Bay along with a small area in Taunton Bay. This photography and recent round of mapping will allow for a timely assessment of the change in eelgrass distribution along a large area of the Maine coast. The contractor also provided georeferenced digital photomosaics of the region which have been used in initiatives such as the current Bay Management Study and are available for other purposes. This project was funded with 309 monies.

Marine Protected Areas

MPA Inventory. Through a partnership with the Coastal States Organization, NOAA's MPA Center and Maine Sea Grant, a project intern worked in the summer of 2005 with Maine state agencies to compile the state MPA inventory for display on NOAA's website. Maine DMR and Maine Historic Preservation Commission were most active in the inventory, while ME IF&W information still needs to be incorporated. This project was funded with 309 monies.

MPA Federal Advisory Committee. Since its inception in June 2003, the Marine Protected Areas Federal Advisory Committee (MPAFAC) has met 6 times. Maine DMR Commissioner George Lapointe has completed an initial term, and been asked to serve an additional term. He has participated as a member of the Subcommittee on a National System of MPAs, which is broadly charged with defining the goals of the national MPA system or network. The first report of the MPAFAC was unanimously adopted at their May 2005 meeting, and in June 2005, their recommendations on establishing and managing a national system of marine protected areas were delivered to the Departments of Commerce and the Interior.

Competing Uses of Public Waters

Bay Management Study. PL 2003 c. 660, Part B (LD 1857) directed the Land and Water Resources Council ("LWRC") to undertake a two-year study "to explore and document potential new and innovative concepts for the management of Maine's embayments." This study requirement was an element of legislation stemming from the prior study on aquaculture conducted by the Aquaculture Task Force. The study effort began in the fall of 2004. PL 2003 c. 660 requires the Council to submit a final report by January 15, 2007 to the Legislature's Joint Standing Committee on Marine Resources ("Committee").

DMR and SPO are carrying out the study at the LWRC's direction and are leading an interagency staff work group with the assistance of a neutral, third party project steering committee.

The main purposes of the study are to explore the concept of bay management as a tool for planning and management of uses of near shore embayments and the potential role of local government in such planning and management, and to identify a menu of bay management options for consideration by the Legislature.

To date, a preliminary list of problems and issues in nearshore waters has been developed, along with study principles and working definitions. Six public meetings have been held in different locations around the coast and pilot projects in Muscongus Bay and Taunton Bay are underway. Staff has outlined and researched several specific topics regarding the current framework of laws and policies affecting Maine's embayments, including current law regarding interlocal agreements and municipal roles under several state natural resources laws. Staff has continued to investigate and document approaches to bay management in other jurisdictions, as well as other natural resources management efforts as potential sources of ideas applicable to Maine. In addition, staff has researched other tools which have been suggested to be of potential use for bay management, including alternative dispute resolution.

Analysis to date suggests that specific improvements could be made within the existing management system to address many of the issues while a larger, system-wide approach may be needed to address

the large range of identified problems and underlying core problems in ways adapted to the unique mix of problems relevant to a specific bay.

Subsequent steps in the process are somewhat dependent on the nature of approaches identified as appropriate for further consideration and potential inclusion among the study recommendations. PL 2003 c. 660 requires the Council to submit a final report by January 15, 2007 to the Legislature's Joint Standing Committee on Marine Resources. The Bay Management Project has been supported by 309 funds.

Ocean Disposal of Dredged Materials

Dredging Priorities. The Maine Department of Transportation (DOT) has integrated prioritization of, and planning for, the maintenance dredging needs of federally maintained navigation channels and harbors into its overall, inter-modal transportation planning process. In 2005, Maine DOT surveyed municipalities regarding their needs and interests in dredging improvements and, in consultation with the Army Corps of Engineers (ACOE) and other state agencies, produced and submitted to the ACOE a list of state maintenance dredging priorities. This list updates the dredging priorities list produced in 1995. This project has been supported by state funds.

Dredge Management Action Plan (DMAP). Recognizing the potential for resource conflicts, the need to identify, quantify and plan for the anticipated needs for disposal of dredged material from federal, state and private projects, and the potential for improvement of the state and federal regulatory review process applicable to coastal dredging projects, in 1999 the Maine DOT hired a consultant to prepare a Dredging Management Action Plan (DMAP). Maine DOT assembled a diverse and representative group of public and private stakeholders, the DMAP Oversight Committee, to oversee the consultant's work. The consultant completed the DMAP for DOT in 2002. The plan recommended a variety of changes to state laws, policies and practices aimed at facilitating public and private dredging operations in a safe, economic and environmentally sound manner. There was not consensus on many of the plan's recommendations among members of the steering committee or among state agencies and further work on implementation of the plan's recommendations stalled. CZM staff time on this project was funded by 306 monies.

Establishment of Dredge Work Group. In February 2005, DEP approved a private project involving dredging of 750 cubic yards of material (one barge load) in Portland Harbor and disposal of that material at the Rockland Disposal Site (RDS) in Penobscot Bay. The cost for disposal at the Portland Disposal Site (PDS) was significantly higher due to the biological testing requirements for use of this 103 site in federal waters. These biological tests were not necessary for use of RDS, a 404 site in state waters, where federal regulators (ACOE and EPA) have the authority to use best professional judgment in determining the need for such testing (not deemed necessary in this case). Concerns by fishermen and others in the Penobscot Bay region in turn prompted legislation, LD 1592, aimed at developing approaches through state law to address the apparent discrepancy in federal testing requirements. Carrying over the bill for consideration during the next legislative session in 2006, the Natural Resources Committee requested DEP and Maine DOT, in consultation with SPO, DMR and stakeholders, to make recommendations.

In January 2006, Maine DOT and DEP, following consultation as directed, presented their recommendations, which the Committee endorsed. Those recommendations include principally:

- Establishment of Dredging Work Group, under the oversight of the Land and Water Resources Council, to help facilitate review of dredging projects; develop policy options; and coordinate state participation in federal regional dredging team discussions.

- Discussion with EPA of options for flexibility regarding testing requirements for use of PDS;

- Reinforcement of state role in reviewing test requirements and results for dredging projects and results; and

- Resumption of discussions regarding the recommendations in the DMAP as part of the work of the Dredging Work Group.

Planning for CADS Alternative. State and federal agencies have begun discussions for identification and approval of a replacement site. The State is working to secure federal funding for an initial ACOE study to identify potential replacement alternatives. This project was supported by state funds.

Marine Invasive Species. The Maine Coastal Program helped organize and now chairs the ad hoc Maine Marine Invasive Species Working Group (MMISWG), formed as an outgrowth of a 2004 forum. In the absence of a lead agency for marine invasives, the group has partially fulfilled the need identified in the State Invasive Species Action Plan for an entity to focus on marine invasives in Maine. The group's efforts have included advising and recommending an approach to deal with invasives transported to Maine waters in ballast water via other vectors. This project was funded with 309 monies.

Pursuant to Resolve Chapter 43 "Regarding Non-native Invasive Marine Species" (enacted by the Maine Legislature in May 2005), the DMR (with the DEP) submitted a report to the Joint Standing Committee on Natural Resources and the Joint Standing Committee on Marine Resources in January 2006 "concerning the nature and extent of the problem of non-native invasive marine species in Maine waters." The report provided a summary of issues and efforts to control non-native invasive marine species in the New England area, a description of the existing legal framework for regulation of ballast discharges, and included recommendations for changes to Maine law to better address ballast discharges and other issues related to non-native invasive marine species.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 strategy.

The efficiency and accuracy of Maine's marine resource-related permitting and regulatory decisions could benefit from incorporation of additional ecological information through improvements in research and monitoring, experimentation in pilot projects and targeted investigations. Additionally, new trends in governance call for an ecosystem-based approach to ocean management, a method which Maine is just beginning to explore.

Ongoing use conflicts continue to create negative ecological and social impacts, calling attention to the need for bay management approaches. The range of potential approaches is under investigation and priority needs and gaps are being further defined.

Additional and improved management measures are needed for selected fisheries. Management modifications in Maine are arrived at through intensive consultation with and participation from the affected industries.

Maine has had a few small successes with attempts to protect marine habitats. Ongoing information collection, tool development and interaction with a wide variety of stakeholders is needed.

2. What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

Last Assessment	This Assessment
__x__ High	__x__ High
_____ Medium	_____ Medium
_____ Low	_____ Low

Ocean resource management has been a high priority for the Maine Coastal Program for almost 15 years and continues as a priority concern. There are continued declines in offshore fish stocks and increasing demands on nearshore resources. Continued research and monitoring points to the need for new additional management measures in selected fisheries. New trends in governance call for an ecosystem-based management approach to marine resource management, yet this new and uncharted approach requires new information and a retooling of state agencies. Lastly, the public is calling for new methods of management characterized by proactive attention to emerging issues, smaller scale management regions, and increased interaction with decision-makers. The Maine Department of Marine Resources has a substantial need for additional support to meet these new challenges.

Ocean Management: Strategy

1. Submit Bay Management Study Final Report to the Maine Legislature and Develop New Programs and Authorities as Directed by the Study Report.

PL 2003 c. 660, Part B (LD 1857) directs the Land and Water Resources Council with submitting a final report to the Joint Standing Committee on Marine Resources in January 2007. The report must include: definitions, principles, goals and objectives for bay management in the State; a range of approaches for bay management that is feasible for use in Maine; criteria and standards for bay management, including guidelines to inform voluntary planning efforts by citizen groups; data and information needs, mapping needs and information transfer needs for bay management; changes needed to regulatory authorities including but not limited to statutes, regulations and grant programs; creation of limited local authority for bay management; and state, local and volunteer resources and capacity needed for bay management. The bay management study is still underway and will not be completed prior to the finalization of the 2006 Section 309 Assessment and Strategy.

a) Program Change:
A range of options under consideration by the bay management study include new regional ocean planning mechanisms, changes to existing policies and programs, new statutes and new grant programs.

b) Anticipated Effect of Program Change:
The intent of creating new nearshore governance mechanisms in Maine is to reduce ecological impacts from current resource management practices, to reduce social impacts of user conflicts, to increase local participation in marine resource management and to improve the information used for marine resource decision-making.

c) Appropriateness of Program Change:
It is anticipated that the bay management study recommendations will not focus on a single tool, technique or approach, but rather include a range of potential new mechanisms and improvements to existing programs to improve nearshore management. The final mechanisms chosen ideally will be supported by state agencies, the legislators, industry and a broad array of interested stakeholders and viewed as appropriate for use in Maine.

d) General Workplan

FY06 Staff and Steering Committee complete draft bay management report and submit product to the Land and Water Resources Council; LWRC finalizes recommendations and submits to the 1st session of the 123rd Legislature; staff works with Legislature and stakeholders to develop legislation.

FY07 Design rules, programs, procedures, etc. to implement legislation or other directives. Complete several "foundation components" for new nearshore management approaches, including, but not limited to: inventories of Maine's embayments to assess additional opportunities for bay-scale research, planning and management; categorization of embayments by degree of industrialization, freshwater input,

geography, plant and animal life, and predominant human uses; mid and long-term nearshore mapping strategy; print and web-based materials describing key features of Maine's embayments; a strategy for partnering with the Gulf of Maine Ocean Observing System on deployment of additional nearshore buoys and research focused on management issues such as nutrient loading from runoff, aquaculture siting, and cumulative impact of coastal structures; habitat and other maps at a scale usable for nearshore management; and incorporation of nearshore maps into GIS layers available through MEGIS and other data-sharing systems.

FY08 Implementation of new approaches

FY09 Implementation of new approaches

FY10 Evaluate new programs and authorities

e) Summary of Estimated Costs

FY06 $100,000

FY07 $200,000

FY08 $200,000

FY09 $200,000

FY10 $100,000

f) Likelihood of Success:

Provided that new bay management programs are developed with a realistic eye towards available resources, the likelihood of success of new nearshore management programs is high.

2. Development of New Practices and Criteria for Intertidal and Nearshore Dragging.

The bay management study has included an analysis of gaps and contradictions in existing governing authorities. An issue area identified by state agencies is the inconsistency among approaches to protection of nearshore resources such as eelgrass. Applicants for docks and piers work to minimize and mitigate their impact, while dragging of the nearshore is an accepted fisheries practice. Trends in the seafood industry will increase the practice of nearshore dragging. In response to a growing market for Maine mussels, the need for both wild product and seed mussels for aquaculture is also rapidly increasing. At the same time, gear conflicts with fixed gear industries such as the lobster industry have reduced the available space for conventional harvest by drag, forcing most of the industry into smaller and smaller areas of the coast where lobsters are not fished. Most of these areas are shallow inner bays that are habitat for juvenile fishes and other marine life. As a result, those areas accessible to a drag fishery are dragged repeatedly and thoroughly resulting in harm to natural non-targeted organisms and habitat.

a) Program Change:

Best management practices and/or codes of conduct and/or enforceable standards and laws for protection of nearshore and intertidal habitats from the effects of dragging.

b) Anticipated Effect of Program Change:

Increased protection of nearshore resources; reduction of user conflicts.

c) Appropriateness of Program Change:

Repeated dragging in intertidal and nearshore habitats impacts sensitive resources and affects other fisheries, and is currently not regulated. Development of new practices, and protection of critical habitats is the necessary solution to this ongoing problem.

d) General Workplan:

FY06	Work with the Cooperative Institute for Estuarine Technology (CICEET) at UNH to develop a less time-intensive and more cost-effective way to map eelgrass on a more predictable schedule to accurately document change in eelgrass areas.
FY07	Convene two public informational meetings to describe the challenges and impacts associated with mussel harvesting and solicit ideas from the public and industry members on how to minimize impacts and conflicts. Develop a list of management-oriented research topics that can be addressed over time (e.g. off-site impacts to lobsters; recovery rates for eelgrass beds; effects on sediment quality in adjacent worm flats). Research projects may be pursued as grant opportunities arise through, for example, Sea Grant, CICEET, and Northeast Consortium.
FY08	Assess nature and extent of conflicts and impacts on a coastwide scale through interviews with Marine Patrol and by conducting aerial surveys. Prepare GIS layers showing location of shallow dragging areas in juxtaposition to other natural resources. While some dragged areas are well know, for the most part, our knowledge is through complaints from the public.
FY09	Develop draft best management practices and/or codes of conduct and/or enforceable standards and laws for protection of nearshore and intertidal habitats from the effects of dragging. Draft Report to LWRC on study findings with recommended changes in State policy and industry practices.
FY10	Conduct session on best practices for nearshore dragging at the Maine Fishermen's Forum.

e) Summary of Estimated Costs:

FY06	0
FY07	$10,000
FY08	$10,000
FY09	$5,000
FY10	$1,000

f) Likelihood of Success:

As the mussel dragging industry is a small fleet (~21 active draggers), we believe that a combination of practices and agreements could protect important habitats while affording the continuation of mussel harvest.

3. Develop Alternative Approaches to Fisheries Management.

Over the past decade, co-management structures have been put into place for several of Maine's fisheries. These range from the Lobster Zone Councils, which have specific statutory authorities to make recommendations to the Commissioner on management measures within their zone, to the

Sea Urchin Zone Council, which advises primarily on season days and expenditures from a research fund, to the Scallop Advisory Council, which simply provides input on matters of interest to the fishery, as well as research expenditures.

Each of these fisheries faces its own unique challenges, which the existing management framework can help to address in coming years. However, it is also likely that statutory and regulatory changes will be needed to adapt the management structure to new tools that are being considered, and which are specific to each fishery. In addition, there are larger trends in fisheries management, including more ecosystem and area-based approaches, which DMR would like to advance in Maine and may require additional statutory authorities.

Lobster

Since 1995, members of the lobster fishing industry, the Department of Marine Resources and Maine's Legislature have worked to effect major changes in how Maine regulates its lobster fishery. Statutory changes over the past decade include limits on the number of participants in the fishery, an individual trap limit, a trap tag program, lobster zones and councils, the apprenticeship program, owner-operator requirements, and limited entry ratios by zone.

The lobster resource in the Gulf of Maine has recently been assessed as having relatively high overall stock abundance, with fishing mortality comparable to that in the recent past. However, the level of effort in the fishery is still regarded as potentially too high. The long-term average catch for this fishery could be obtained with far less gear than is currently in the water. Should landings return to more historical levels, the fishery is significantly over-capitalized. In addition to the economic inefficiency this presents, it also causes social problems (gear conflict) and poses the risk of depleting the resource to lower levels in times of decline (as fishermen struggle to continue to cover the cost of their investment).

Therefore, despite the favorable review of the status of the resource, the Lobster Advisory Council and the Lobster Zone Councils remain committed to exploring methods for reducing future effort (traps in the water) in this fishery. Some aspects of effort in the lobster fishery will need to be discussed on a statewide basis, and some management measures may need to be uniform statewide, as a matter of policy. Other aspects of effort reduction may be tailored to a specific lobster zone.

Extensive work has already been done to document industry ideas regarding effort reduction needs in the lobster fishery. An analysis of the impact of various approaches is currently underway. Once this information is assembled, more consultation with industry will be needed to discuss how specific tools could be implemented and which ones are appropriate for which Zone. This will need to be an iterative process at both the Zone Council and Lobster Advisory Council levels, as proposals are refined. Statutory and regulatory changes will need to be drafted, pursued through the legislative process, and implemented.

Urchins

Very difficult management measures have been imposed on the urchin fishery in recent years. Most notably, the season has been cut back in the western part of the state from 90 to 10 days, and in the eastern part of the state from 90 to 45 days. As an alternative to such strict limits to the season, there has been some interest in new approaches to urchin management, including possibly smaller management zones and/or area specific plans. At the same time, because of the highly depleted

nature of the resource across the majority of the coast, and the strong management action DMR took, at this time many industry members may not be willing to engage in discussion of new management approaches.

There is a great deal of uncertainty in the urchin fishery at present, and it is unclear what, if any, new tools industry wishes to explore. While rebuilding is likely to occur (albeit slowly) under the greatly restricted season, it may be possible to implement alternative approaches to achieve more flexibility in the future. The most promising of these is smaller management zones than currently exist, with either permanent closures within the zones, or rotational closures. There is an opportunity to look at these tools in concert with the scallop fishery. Even with a very limited fishery for urchins, it would be possible to improve the value of this resource to the state. Through continued meetings with the Sea Urchin Zone Council and other interested members of the fishery, DMR will develop management options for Council review and input. As appropriate, these will be pursued in statutory and/or regulatory changes.

Scallops

Over the past decade, Maine's scallop resource has declined precipitously. It remains one of the only totally open entry fisheries along Maine's coast. Traditionally, this feature has been important to coastal communities, as it represents an assurance that everyone will have some opportunity to go fishing. However, with the severely depleted status of this resource, it is likely that additional management action will need to be taken. While this does not necessarily mean limiting entry, other tools, such as rotational closures, will need to be seriously considered. Currently there are no "zones" in the scallop fishery. Zones, or other ways of delineating smaller management areas, may be needed as a precursor to the implementation of new management tools.

The Scallop Advisory Council has advised the Department on a variety of regulatory changes that were possible under the existing management structure. However, a more complete analysis of options for the scallop fishery is needed to inform a discussion of future action. This will require research and the development of an options paper that will form the foundation for moving forward, and ultimately, potential statutory and regulatory changes.

a) Program Change:

- Lobster: Despite what has essentially been a complete overhaul of lobster management over the last decade, one major issue has not been adequately addressed. The number of lobster traps in the water (effort in the fishery) has continued to grow despite license limitations. This project proposes to address for the first time, a methodology to actually reduce the number of traps entering the water. This may take several forms: a tiered licensing structure, a shift to applying the entry/exit ratio to tags rather than licenses, and/or a lowering of the trap limit for all new entrants into the fishery. The end result is likely to be a combination of these measures, and each of these would take extensive revision of existing statute and supporting rule-making.
- Urchins: Urchin management has relied largely on drastic reductions in season length to stop resource decline and initiate rebuilding. While this may eventually achieve rebuilding goals, previously untried methods such as smaller management areas may allow faster recovery, and provide more opportunity to industry members. The Program Change would take the form of statutory and regulatory changes. These changes may initially take the form of a pilot project, which would also require statutory approval.

- Scallops: Any new management options undertaken as a result of the options analysis would require statutory and regulatory changes to implement.

b) Anticipated Effect of the Program Change:

- Lobster: Excessive effort in the lobster fishery has negative social and economic consequences. As the amount of gear increases, the potential for interference with other fishermen grows. There are also concerns about overcapitalization, and associated economic impacts should landings decline. Finally, there is the potential for the current level of effort to exacerbate a decline in lobster abundance. The anticipated effect of the program change of addressing effort in the lobster fishery through traps is to mitigate these negative social, economic, and biological impacts.
- Urchins: Urchin management has relied largely on drastic reductions in season length to curtail depletion of the resource. The anticipated effect of the Program Change is to implement new management measures which will give greater flexibility to industry members while still achieving rebuilding goals.
- Scallops: The anticipated effect of a Program Change in the scallop fishery is to halt the continued decline of the resource, and develop a new management framework that will support a sustainable inshore fishery.

c) Describe why this activity is the most appropriate means to address this issue:

Each of these three fisheries has an existing co-management structure to provide input into proposed changes to the fishery. All of the anticipated Program Changes will require statutory changes by the Legislature. These changes will only be achievable with the support of industry. A process in which industry members are partners in the development of a plan, and have opportunities to provide feedback at each step in the process will be most productive.

d) General Workplan:

FY06: Analysis of lobster effort data, review with Zone Councils and Lobster Advisory Council; supporting work of Sea Urchin and Scallop Advisory councils

FY07: Drafting of legislation for lobster effort and sea urchin management, bills introduced and worked through legislative process; supporting work of Sea Urchin and Scallop Advisory councils

FY08: Implementation of changes to lobster and sea urchin statutes as needed; supporting regulatory changes made; development of options for scallop management, industry review

FY09: Further amendments to lobster and sea urchin statutes as needed; scallop legislation drafted as needed, bills introduced and worked through legislative process

FY10: Implementation of changes to scallop statutes as needed, supporting regulatory changes made

e) Summary of Costs:

This project requires a full time position to work with the industry liaison and advisory councils on policy development, drafting of statutory and regulatory changes, advancing legislative packages and implementation. Work done on the species identified will correspond to the General Workplan above.

FY06	$80,000
FY07	$83,000
FY08	$85,000
FY09	$85,000
FY10	$87,000

f) Likelihood of Success:
High – Concern about effort in the lobster fishery and the status of the urchin and scallop fisheries is sufficiently high on both the part of industry members and managers that the likelihood of achieving programmatic changes is high.

4. Refine and Implement an Ecosystem-Based Management Plan in Taunton Bay.

In Maine, ecosystem based management for fisheries management has long been touted as a preferable alternative to the single species management approach that some argue has resulted in unsustainable biological communities, habitats and human economies. Maine DMR has worked extensively with stakeholders in Taunton Bay to develop a place-based, multi-disciplinary, collaborative approach to managing marine resources. In 2007, DMR will complete a "science-based comprehensive resource management plan for Taunton Bay that addresses principal resource user groups in the context of sustaining ecological processes, functions, and values of Taunton Bay" as mandated by legislation passed in 2005. This plan, currently under development, will be based on existing maps and knowledge of the Taunton Bay estuary and new information gained from cooperative studies of mussel dragging with industry members.

a) Program Change:
Approval of Taunton Bay resource management plan by 123rd Session of the Maine Legislature; implementation and refinement of management approaches in Taunton Bay; development of ecosystem-based management approaches that are transferable to other areas.

b) Anticipated Effect of Program Change:
Documentation of region-specific resource management approaches, development of transferable techniques, improved ability of Department of Marine Resource to practice ecosystem-based management approaches.

c) Appropriateness of Program Change:
Legislation has been passed requiring the proposed response from DMR; citizen groups are calling for regional scale marine resource management; trends in governance call for an ecosystem based approach to marine resource management.

d) General Workplan:

FY06	Continue work (now underway) on development of Taunton Bay resource management plan
FY07	Submittal of plan to 123rd Session of the Maine Legislature; refinement and modification of the plan

FY08	Implementation of new marine management in Taunton Bay (i.e., smaller, more localized, area management for species or complex of species – e.g. urchins, scallops, and other, additional resource management schemes)
FY09	Implementation of new marine management in Taunton Bay
FY10	Dissemination of lessons learned to other small embayments

e) Summary of Estimated Costs:

FY06	$0
FY07	$5,000
FY08	$15,000
FY09	$10,000
FY10	$5,000

f) Likelihood of Success:
High – DMR's work in Taunton Bay is directed by the Maine Legislature as a result of citizen-initiated legislation. The agency has worked collaboratively with area stakeholders for several years in different phases of this project. Taunton Bay is also a pilot region for Maine's bay management study. A focus of the pilot project work has been to identify new mechanisms for state/local collaboration to manage significant resources on a region-specific scale.

5. Evaluation of Impacts to Nearshore Habitats from Selected Development Activities.

Maine's marine habitats are under continued pressure from land development, shoreline armoring, establishment of new or expanded mooring fields, dredging and other disturbance. While each of these types of disturbances is regulated, and appropriate mitigation or conditions assigned as part of licensing processes, each activity tends to be examined on its own in an adhoc fashion. Past assumptions about habitat impacts drive our thinking – for example – "windows" within which dredging can occur are based on limited, prior knowledge of fish habitat characteristics. Habitat change is frequently looked upon as "bad" without understanding the context of that change or that change might actually further other management goals such as enhancing a wild fishery that is limited by lack of juvenile habitat. The following strategy involves reviewing some of the past assumptions regarding sensitivity of habitats to activities and conducting a net environmental cost/benefit analysis of, for example, dredge windows, mooring fields, riprap. This strategy complements other work discussed in sections of this report on cumulative impacts and wetlands.

a) Program Change:
Information generated may be used to develop new guidelines for habitat protection and/or modify existing regulatory standards.

b) Anticipated Effect of Program Change:
Improved knowledge of Maine-specific impacts leading to changes in regulatory mechanisms for selected types of projects.

c) Appropriateness of Program Change:

This work is the necessary precursor to making an informed decision about the adequacy of current conditions placed on development activities in Maine's nearshore. Historical assumptions about impacts of certain activities are not bolstered by evidence of habitat impacts.

d) General Workplan:

FY06	Conduct literature search of most current information on developments of concern (ie. dredging, moorings, docks, riprap).
FY07	Select two permitted activities for complete environmental audit (e.g. dredging, shoreline riprap, docks, moorings). Identify a set of permitted projects for each of the two activities that represent a range from "best to worst case". Design field investigation protocols and analysis. Seek additional funds from Maine Sea Grant or other sources for investigation.
FY08	Habitats and biological communities will be assessed around each project and compared to control and/or pre-project conditions. Change will be described in the context of the immediate surrounding ecosystem (cove-bay scale).
FY09	Evaluate results for application to management questions, for example use information to review dredge window policy for consistency with current dredge technology and biological knowledge of fish distribution and behavior.
FY10	Assess project and plan further investigations.

e) Summary of Estimated Costs:

FY06	$0
FY07	$10,000
FY08	$10,000
FY09	$8,000
FY10	$5,000

f) Likelihood of Success:

High. Several ongoing efforts are underway – for example, see dredging work group strategy, bay management strategy, both in this section -- that propose changes to nearshore governance. The dredging windows issue has been a longstanding one for state agencies and is in particular need of resolution.

6. Compilation of Habitat Information to Inform New Management Guidelines.

Maine DMR has completed a number of video surveys for different species and projects such as the Maine-New Hampshire inshore trawl survey, sea urchins, scallops, lobsters, and Jonah crabs. These surveys have focused primarily on target species; however, valuable data are recorded on habitat. DMR's aquaculture program records 50-70 hours of underwater video of proposed and existing finfish and shellfish lease sites annually. This project will compile this video data into a format usable for habitat mapping to inform management decisions. Summary and interpreted habitat information from the video surveys will be entered into a GIS so that it can be layered with bathymetry and surficial sediment data collected by the Maine Geological Survey and others. In addition, the digital video data will be stored in the GIS so that it can be streamed for rapid viewing.

a) Program Change:

This strategy may lead to the development of new guidelines concerning habitat protection and may inform the designation of new marine protected areas.

b) What is the anticipated effect of the activity?:

Results of this project will assist managers in identifying critical habitat for marine resources and evaluating impacts of activities such as aquaculture on habitat. The project will build on the Gulf of Maine Mapping Initiative, support additional bay management activities, provide information for designating marine protected areas, and make information available to the public on marine habitat. In addition, the data will be available for data-sharing projects under development through the Gulf of Maine Data Partnership.

c) Why is this activity the most appropriate for addressing this issue?

Video surveys require a major investment in time and dollars to collect data on marine organisms and the marine environment. While specific project information has been obtained from the videos, much information has not been utilized. In addition the video data are currently not accessible through DMR's biological database or Geographic Information System (GIS). This activity will make a large amount of information readily accessible to scientists, managers, and the public.

d) General Workplan:

FY06	Inventory and catalog DMR's video data; convert non-digitized data to digital data; investigate methodologies for interpreting and incorporating data into a GIS
FY07	Interpret and incorporate data into a GIS; provide results for management
FY08	Interpret and incorporate data into a GIS; provide results for management
FY09	Interpret and incorporate data into a GIS; provide results for management
FY10	Develop a web-based application for the video GIS

e) Summary of Costs:

FY06	$12,000
FY07	$12,000
FY08	$15,000
FY09	$15,000
FY10	$15,000

f) Likelihood of Success:

High – The Department of Marine Resources scientists who collect the video data are highly supportive of this strategy and believe the GIS habitat layer will help to support their work. DMR maintains a number of GIS data layers, such as for eelgrass habitat, that are incorporated into the state GIS program. In addition, DMR has had several innovative web-based map products developed, including whale sighting and Red Tide mapping applications.

7. Develop Maine's Response for Control of Marine Invasive Species.

"Non-Native Invasive Marine Species In Maine -- A Report to the Maine State Legislature, Marine Resources Committee and Natural Resources Committee" (February 1, 2006) included nine recommendations for future actions on the part of several state agencies and partners. However, no new resources were allocated to implement the recommendations and neither DMR nor DEP have the capacity to serve a lead role. The recommendations include: clarifying roles and responsibilities of state agencies and partners; establishing priorities for regulations and research; conducting research and monitoring; examining current regulations for importation of live species; conducting outreach and education; training operators in best management practices, contributing to the development of a regional ballast water plan and creating discharge standards for ballast water.

This interim strategy will create an implementation plan and funding strategy for marine invasives. The ad hoc Marine Invasives Group will oversee the development of this strategy, with support for consulting services from the Maine Coastal Program. The development of a more defined strategy and fundraising plan will likely lead to several specific projects for MCP support in Years 2008 and 2009.

a) *Program Change:*
This strategy will lead to the development of new guidelines and mechanisms for addressing the prevention and control of marine invasions and potentially may also lead to a memorandum of understanding on regional ballast water management.

b) *What is the anticipated effect of the activity?:*
This program change should lead to improvements in agency coordination on this issue and increase ME's cooperation with other states in the region. Additionally, MCP anticipates a broadened public awareness of marine invasions and their impacts on the environment and the economy. The result of improved coordination and heightened awareness will ideally be a reduction of the potential for marine invasions in Maine.

c) *Why is this activity the most appropriate for addressing the issue?:*
Neither the DMR nor the DEP has resources to devote to marine invasives nor the capacity to become the lead agency on this issue. Therefore there is a need to develop a coordinated strategic plan to enable Maine's agencies to address this problem now and in the future. Given the lack of financial resources available to deal with marine invasive species, it makes sense for MCP to coordinate agency efforts with existing organizations such as the Maine Marine Invasive Species Working Group (MMISWG) and the Northeast Aquatic Nuisance Species Panel (NEANS).

d) *General Workplan:*

FY06/07 MCP continues to coordinate Maine Marine Invasive Species Working Group (MMISWG).

MMISWG coordinates with NEANS to identify priorities and to develop Maine's strategies for dealing with marine invasive species.

MMISWG works with Maine agency representatives to clarify roles and responsibilities with regard to marine invasive species.

MMISWG coordinates with NEANS to develop rapid response plan.

MMISWG coordinates with Maine agencies/organizations and NEANS to develop a social marketing strategy to encourage operators from the fishing industry, marinas, research facilities to use best management practices for the prevention of marine invasions.

MMISWG coordinates with Maine agencies/organizations and NEANS to help develop a regional ballast water management plan.

FY08 MMISWG coordinates with agencies and organizations to implement social marketing plan, including an outreach and education campaign.

MMISWG and Maine state agencies and organizations work with NEANS towards the implementation of a regional ballast water management plan.

FY09/10 Tasks undertaken during these years will be guided by the results of program efforts in the previous three years.

e) Summary of Costs

FY06	$5,000
FY07	$5,000
FY08	$5,000
FY09	$5,000
FY10	$5,000

f) Likelihood of success:

High, based on the attention brought to this issue by the legislative resolve (Resolves 2005, Chapter 43), and the subsequent report by DMR and DEP. Additionally, the high degree of expertise and dedication brought to this issue by members of the Maine Marine Invasive Species Working Group increases the likelihood that this program change will be successful.

Strategies to be funded by other (non-309) monies

The Maine Coastal Program and its partners will attempt to conduct the following projects through other CZM funding, state funding and through additional sources of support.

1. Improvements to Dredged Material Management.

Through the Dredging Work Group:

- Provide a staff-level, interagency forum for coordination of state activities and interaction with stakeholders regarding dredged materials management; and
- Review the State's current dredging management regime, existing information (including the DMAP and its recommendations) and develop, for consideration by the Land and Water Resources Council, policy recommendations on environmentally and economically sound steps to plan for and efficiently address the State's coastal dredging and disposal needs.

In cooperation with the State of New Hampshire, through its Coastal Zone Management program, as appropriate, identification and implementation of alternative(s) to replace CADS. This strategy

involves, principally, participation in public outreach and education as well as scientific and technical reviews in relation to federal and state regulatory processes to identify, assess, and implement economically and environmentally viable alternative(s) to CADS, including potential designation of a 103 site and preparation of the related EIS.

This strategy is dependent on project-specific federal funding, initially for an ACOE scoping study to identify a potential range of replacement alternatives and subsequently for requisite federal environmental studies and analyses in connection with any proposed ocean disposal site designation.

2. Alternative Methods for Groundfish Management.

Groundfish is managed by the New England Fisheries Management Council, with participation from each of the New England states. The Multispecies (groundfish) Fisheries Management Plan (FMP) has been revised significantly in recent years. Drastic cutbacks have been made to "Days at Sea" which has threatened the continued existence of the industry and its infrastructure in Maine. In the past, New England as a region and Maine in particular, has opposed any discussion of a rights-based approach to fisheries management (ITQs, for example). However, the current management situation is of such concern that alternatives must be closely examined. Due to the long-held concerns about what any form of quota system might mean for Maine's fleets, this conversation must move forward very slowly, with plenty of opportunity for information sharing and input from industry.

There is a need to design and conduct a process to convene industry members to discuss the future of groundfish management, as well as to document the possible alternatives to the traditional "Days at Sea" approach, and the implications of any changes on Maine's fleet. Timeline: FY07-10

3. Stakeholder Dialogue to Foster Marine Conservation – "Marine Dialogue".

Under the leadership of the Maine Chapter of the Nature Conservancy and a steering committee of coastal and fisheries-related organizations, launch and participate in a multi-stakeholder dialogue on marine conservation. The purpose of the dialogue is to build trust, and from that, a common agenda for marine conservation improvements in Maine.

Wetlands: Assessment

Section 309 Programmatic Objectives

I. Protect and preserve existing levels of wetlands, as measured by acreage and functions, from direct, indirect and cumulative adverse impacts, by developing or improving regulatory programs.

II. Increase acres and associated functions (e.g., fish and wildlife habitat, water quality protection, flood protection) of restored wetlands, including restoration and monitoring of habitat for threatened and endangered species.

III. Utilize non-regulatory and innovative techniques to provide for the protection, restoration, and acquisition of coastal wetlands.

IV. Develop and improve wetlands creation programs.

Resource Characterization

1. Extent of coastal wetlands.

Intertidal Wetlands (includes marine, estuarine and riverine wetlands)

The National Wetlands Inventory (NWI) Maps indicate 142,115 acres of intertidal wetlands in Maine. The Coastal Marine Geologic Environment (CMGE) maps indicate 145,069 acres of intertidal wetlands along the Maine Coast. The discrepancy between the two acreages is due to the use of different maps as a base for the inventories. The CMGE maps, published in 1976 are based on aerial photos from the 1960's while the maps used to update the NWI maps are over 10 years old. The coastal NWI's are currently being updated for southern sections of the coastline. Efforts are ongoing to find funding and federal partners to update the CMGE maps.

Subtidal Wetlands

According to the NWI maps, there are 1,865,871 acres of subtidal estuarine and marine wetlands in Maine.

Freshwater Wetlands

According to the NWI Maps, there are 279,289 acres of freshwater wetlands in Maine's coastal zone including 79,100 acres of lacustrine and 190,953 acres of palustrine wetlands.

Wetlands Type	Extent (acres and year of data)	Trends (acres/year)
Tidal	142,115 (1990s)	not available
Non-tidal/Freshwater	279,289 (1990s)	not available
Publicly Acquired Wetlands	not available	not available
Restored Wetlands	not available	mitigation: 5 acres/year (since 2001) non-mitigation: 296 acres/year (since 2002, through habitat restoration grant program) comprehensive statewide information on all restoration efforts is unavailable
Created Wetlands	not available	mitigation: 2.6 acres/year (since 2001)
Other	not applicable	not applicable

2. Provide a qualitative description of wetlands status and trends based on the best available information.

About half of the statewide totals for wetlands impacts occur in our coastal towns even though coastal towns represent approximately 1/3 of the total number of organized towns. Projects affecting non-tidal waters and freshwater wetlands have remained at a fairly level number. The state has seen a large increase in the number of large retail complexes being proposed, many of which have substantial wetland impacts involved. Otherwise, small residential and commercial projects account for the remainder of impact. Many of these projects individually are exempt from compensation requirements at both the state and federal level. However, they are also primarily located in wetlands that are not considered of "special significance" under the state's statutory and rule framework. Projects that impact wetlands of special significance can be required to compensate regardless of the impact amount. The first table below describes the amount of wetland fill and alteration that has been permitted in the coastal zone and the second table describes what has been required for compensation.

Projects affecting coastal wetlands have routinely been of great concern and held to a stringent avoidance and minimization requirement. Other than dredges, most of which are federal projects, projects have to be limited to minimal impacts and steered to alteration (e.g. temporary structures) versus permanent loss (e.g. filling).

Opportunities for compensation projects involving restoration and enhancement continue to be limited. Past history and uncertainty over creation projects has made both state and federal agencies somewhat reluctant to attempt them. As such, preservation continues to play a significant part in the mitigation of wetland alterations. Recently, more emphasis has been placed on off-site compensation where on-site efforts are likely to fail to perform as intended and meet the intent of replacing functions/values. Efforts will continue to replace functions related to water quality on-site but other values such as habitat, etc. may be best replaced or preserved elsewhere in the landscape.

Licensed Wetlands Impacts in the Coastal Zone in Acres						
Type	2001	2002	2003	2004	2005	Total
Coastal Wetlands Fill	0.93	16.44*	0.54	0.48	0.1	18.4
Coastal Wetlands Alteration	2.06	76.23*	1.72	1.36	0.14	81.51
(# of Projects)	(36)	(31)	(38)	(27)	(21)	(153)
Freshwater Wetlands Fill	39.94	32.64	18.26	33.84	18.87	143.55
Freshwater Wetlands Alteration	17.75	2.12	0.56	12.21	0.91	33.55
(# of Projects)	(115)	(105)	(90)	(133)	(60)	(503)
** A number of dredge projects in 2002 resulted in large areas of alteration. One US Army Corps project dredged 52 acres and the spoils were disposed in an offshore area of about 16 acres.*						

Wetlands Mitigation in the Coastal Zone in Acres						
	2001	2002	2003	2004	2005	Total
Restored	6.6(3)	10.0(1)	3.06(2)	1.86(6)	3.49(4)	25.01(16)
Enhanced	35.39(6)	2.07(5)	1.98(2)	4.56(3)	0(0)	44.0(16)
Created	0.71(2)	1.57(3)	1.6(3)	8.5(6)	0(0)	12.38(14)
Preserved	87.63(8)	184.8(4)	113.31(9)	103.97(10)	39.08(5)	528.79(36)
Total	130.33(19)	198.44(13)	119.95(16)	118.89(25)	42.57(9)	610.18(82)
** Number in Parenthesis indicates number of projects resulting in compensation.*						

3. Characterize direct and indirect threats to coastal wetlands, both natural and man-made. For threats identified, provide the following information: scope of threat, recent trends, and impediments to addressing the threat.

About half of our statewide totals for wetlands impacts occur in our coastal towns even though coastal towns represent approximately 1/3 of the total number of organized towns.

Development/fill, alteration of hydrology and erosion

The table below shows the number of permits issued under Maine's Site Location of Development Law and Stormwater Management Law for activities that can negatively affect wetlands such as development and/or filling, alteration of hydrology and/or by exacerbation of erosion. Therefore, the number of license applications in the table below serves as a proxy for determining the level of threat to wetlands from these activities. Total application numbers dropped somewhat after 2001, but have steadily risen since. Stormwater permits have risen steadily and should continue to do so for the foreseeable future as development as new stormwater regulations are implemented. The trend in the number of larger Site Law projects seems to be tied more directly to the economy, i.e. a spike in property prices typically is associated with applications for more, large scale residential

projects. Should the market change, it is anticipated that more developers will reduce the project size such that a Site Law permit is not needed. However, most of these projects will still require a Stormwater permit.

License Applicaitons						
	2001	2002	2003	2004	2005	Total
Site Law	218	173	166	204	211	972
Stormwater	53	69	67	94	121	404
Total	271	242	233	298	332	1376

Nuisance or exotic species

Although multiple invasive species affect Maine's coastal wetland ecosystems, two of the most dominant species are purple loosestrife (*Lythrum salicaria*) and the common reed (*Phragmites australis*). Both of these plants can create significant changes in wetlands ecosystem, altering hydrology and out-competing the native plants which provide vital food and shelter for native wildlife. Purple loosestrife and common reed are often associated with environments disturbed by human activities. Runoff of freshwater from impervious surfaces and the alteration of tidal flow by culverts, bridges and dams can shift the salinity regime to favor the invasive plants over native ones. Continuing human disturbances to wetland systems and adjacent uplands in Maine will exacerbate the invasive species problem in these environments.

Sea/Lake level rise

The combination of sea level rise and increases in development present a threat to wetlands. Specifically, migration of coastal wetland systems will be severely hindered as a result of hardening of the upland edges from development. The continuing rise in coastal population and the consequent development pressure create impediments to addressing this threat.

Management Characterization

Within each of the management categories below, identify significant changes since the last assessment, and for categories with changes provide the following information for each change:

- Characterize the scope of the change
- Describe recent trends
- Identify impediments to addressing the change

Management Category	Changes Since Last Assessment
Regulatory program	significant
Wetlands protection policies and standards	significant
Assessment methodologies (health, function, extent)	significant
Impact analysis	significant
Restoration/enhancement programs	significant
Special area management plans	none
Education/outreach	none
Wetlands creation programs	none
Mitigation banking	significant
Mapping/GIS/tracking systems	significant
Acquisition programs	significant
Publicly funded infrastructure restrictions	none

Regulatory program

The DEP amended or adopted rules and procedures in the last 5 years to allow for a more thorough assessment of the impacts from regulated activities.

In 2001, the Permit by Rule (PBR) program was amended to include an avoidance/minimization standard for activities adjacent to protected natural resources. Now, activities within 75 feet of the natural resource must demonstrate a need to disturb area and remove buffer within the setback as well as minimize the project's intrusion into it. The purpose of this rule change was to enhance protection of the riparian area thereby satisfying law standards that projects not unreasonably impact water quality, wildlife and existing uses.

In 2005, PBR was further amended to no longer allow pile-supported piers to be constructed under this reduced procedure permitting process. Large numbers of piers were being constructed without a full review which raised concerns about the cumulative impact of these structures along our coastline.

In 2003, a new rule was adopted to address the 'no unreasonable impact on existing uses' standard of the Natural Resources Protection Act. In particular, the rule focuses on assessing and mitigating a project's impact on scenic and aesthetic uses. The rule applies only to individual permit applications, not other permit applications such as Permit by Rule (PBR) or Tier 1 and 2, which is used for smaller freshwater wetland projects. However, in conjunction with the removal of pile-supported piers from the PBR process, the DEP can now better assess whether new structures along the coast do unreasonably impact existing scenic and aesthetic uses.

In 2006, the legislature approved a change to the Natural Resources Protection Act (NRPA) that will afford greater protection to certain areas defined as significant wildlife habitat. In particular, protection will be extended to certain vernal pools, moderate and high value wading and waterfowl

habitat, and moderate and high value shorebird feeding, nesting and staging areas. Currently, significant wildlife habitats are protected only if they are defined by the Maine Department of Inland Fisheries and Wildlife, lie within another protected natural resource, or are delineated on maps that have been formally adopted by rule. No definitions of significant vernal pools or shorebird habitat had been previously been adopted so there was essentially no protection of these areas as significant wildlife habitat. However, once the new rules are adopted, the DEP may begin to regulate these resources and their corresponding buffer areas or "life zones", as significant habitat regardless of them being mapped or not. Improvements to mapping important resources have been made in recent years and efforts like "Beginning with Habitat" are providing readily accessible information for the public and resource agencies alike as to where these significant habitats are located.

Wetlands protection policies and standards/ Impact analysis

In conjunction with the scenic and aesthetic rules, a cumulative impact assessment procedure was developed to help guide staff in assessing the cumulative impact of regulated activities. Although there is no specific standard within the NRPA related to cumulative impacts, there is reference to consideration of cumulative impacts in the law's purpose. The new standard operating procedure involves assessing a number of criteria which in turn generates a numerical score leading to a relative assessment of cumulative impact severity. Examples of some criteria are frequency of similar impacts, proximity to protected or developed areas, traditional uses, and duration of the activity.

Assessment methodologies (health, function, extent)

The DEP has added a coastal wetland assessment form to the NRPA application which allows for characterization of the intertidal and subtidal areas. This assessment is in the form of a check box survey, capable of being completed by the average applicant. By comparing the wetland characteristics, coupled with review of other resources such as the Beginning with Habitat maps, staff can better determine the specific and cumulative effect of the project on the environment.

Restoration/enhancement programs

Maine CZM continues to provide staff to and partner with New Hampshire and Massachusetts in a Habitat Restoration grant program through NOAA/National Marine Fisheries. This program focuses on coastal wetlands and habitat for anadromous fish. Over the last five years more than $1 million has been given out in grants to the three states for community-based restoration projects. The partnership also developed a Habitat Restoration Strategy for the Gulf of Maine. This strategy describes coastal habitats, types of restoration relevant to each of the habitats, identifies significant restoration projects, and makes recommendations on continuing habitat restoration activities around the Gulf of Maine. This partnership plans to work on the development of a riverine monitoring protocol which similarly to their salt marsh monitoring protocol can be adopted throughout the region and used to develop an assessment of the efficacy of riverine restoration projects throughout the Gulf of Maine. Maine's Habitat Restoration coordinator, funded through this partnership continues to work with Maine state agencies to increase communication and cooperation on wetland restoration projects.

Maine Coastal Habitat Restored 2002-2005	
Habitat Type	**Acres/Miles/Etc.**
salt marsh	83 acres reintroduced to tidal flow
riverine/diadromous fish	1000 surface acres of lake spawning habitat for alewives; 1000 feet of river channel realignment; 1200 linear feet and 2 acres of native riparian river bank cover
subtidal / intertidal	100 acres of intertidal and subtidal mudflat
Note: Some of this represents feasibility work and it is assumed habitat will be restored once the entire project is implemented. Habitat restored also includes other funding sources beyond the GOMC/NOAA Habitat Restoration Partnership, which is the source of the above data.	

Using 309 funds, inventories of potential restoration sites have been undertaken in three areas along the southern and midcoast sections of the Maine coastline. These inventories have been completed for the Royal River, Spruce Creek, and the Kennebec River Estuary. Over three quarters of the restoration opportunities identified through these inventories related to the lack or degradation of riparian buffers. The information will be made available on the GOMC Habitat Restoration Web site and shared with the community groups that are active in each of these areas.

Mitigation banking & In-lieu Fee

The DEP has created an application specific to the establishment of a mitigation bank. To date, only one bank has been approved and that was for the Maine Department of Transportation. Several other inquiries have been made about creating banks but no other applications have been submitted.

The DEP is currently working with state and federal agencies to establish an in-lieu fee program for compensation. Such a program would be the first in New England and perhaps a springboard for other state efforts. The work group is developing a fee plan and a mechanism to identify appropriate sites as well as disburse monies. It is planned to have a program in place in late 2006. Analysis will need to be undertaken to develop a list of potential sites for use in the in lieu program. Impediments to the success of this program will include the ease of use – whether or not applicants see value in paying into an in lieu fee fund rather than developing their own compensation and how well priority sites are identified based upon a landscape level analysis of wetlands functions, threats, and restoration potential.

Mapping/GIS/tracking systems

During the last 309 Assessment period, the DEP began entering the project locations of all licensed activities into a Geographic Information System (GIS) database. It is anticipated that this information will become useful in assessing trends of development activity, their location, and potential site-specific or cumulative impact. Further, when used in conjunction with Beginning with Habitat maps, this information will also assist municipalities, regional planning commissions, state and federal agencies in prioritizing planning and protection programs aimed at improving water

quality, providing open space or protecting wildlife habitat. Efforts also are being made to enter locations of projects approved over the past 5 years so that the database becomes more immediately useful.

Acquisition programs

In conjunction with the in-lieu fee program, monies will be used to acquire land with wetlands by the Land for Maine's Future program. A state level board of appointed members, LMF is charged with purchasing lands with significant ecological and open space values for Maine citizens.

Building on the tremendous success of *Beginning with Habitat*, the Maine Landowner Incentive Program (LIP) has initiated the planning necessary to implement the recommendations developed by *Beginning with Habitat* and other initiatives to conserve important habitats for rare, threatened, and endangered wildlife, plants, and natural communities in Maine. LIP funds have been used in Maine to initiate a landowner incentive program that offers a variety of tools to landowners for rare and endangered plants and wildlife habitat conservation including funds for conservation easements, cooperative management agreements and habitat management activities. Challenges to implementing this new program include limited funds for planning and conservation activities.

Impediments to addressing changes

Impediments to improving wetlands programs include limited funding, limited staff resources due to shrinking budgets, and a lack of state monies to match federal funds available for wetlands restoration.

Impediments to implementation of changes to the policies and procedures in place for mitigation banking and in-lieu fee programs include overcoming concern on the part of certain federal agencies partners that any changes to compensatory requirements and opportunities will not negatively impact efforts to reach the no-net loss/net gain of wetlands goal. Until this in-lieu fee program is available, it is not completely clear if there will be enough interest on the part of those needing wetland permits to develop a fund large enough to undertake meaningful projects.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

- The State lacks a coordinated approach to tracking development and cumulative impacts in the coastal zone.
- The State lacks a non-federal source of match for habitat restoration activities.
- Habitat restoration has increased significantly in the last five years. The State lacks a cohesive monitoring network to measure the effectiveness of the restoration activities and the increase in wetlands functions and values.

2. What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

The change in priority from high in the last assessment to medium in this assessment results from the large of amount of work done on coastal wetland issues during the last five years. New policies and programs which dealt with identified deficiencies in coastal wetland protection are now in place or just about to become operational.

Last Assessment	This Assessment
x High	_____ High
_____ Medium	x Medium
_____ Low	_____ Low

Wetlands: Strategy

1. Comprehensive Geographic Information System (GIS) Database.

MCP in partnership with other agencies will develop a GIS system to track development, conserved lands and restored acreage in the coastal zone using permit data from DEP and DMR (aquaculture lease data), conserved lands data from state agencies, and restoration information from compensation projects as well as community-based restoration projects.

This strategy also addresses the CZM Performance Measurement System by developing a means to quantify changes in the extent and location of wetlands as well as track impacts from development. This comprehensive database will also include data from other indicators such as Public Access, Coastal Hazards, and Coastal Habitats.

MCP will work with state agencies to identify existing data and data gaps, develop a format for this GIS application, and develop a process for regularly updating the data. The technology to accomplish this type of interagency project has matured to point where the likelihood of success for such as an undertaking is very high. Please note that this project is also referenced in the Public Access and the Cumulative and Secondary Impacts strategies. The timeline and budget appear under the Public Access section.

a) *Program Change:*
With better baseline data and a mechanism to update and maintain these data streams, the MCP program will be able to identify and develop more effective policies and programs that address coastal wetlands protection.

b) *What is the anticipated effect of the program change?:*
The anticipated effect of this program change will be better assessment of needs, cumulative impacts, and coastal health which will lead to specific actions in support of coastal wetland protection.

c) *Why is this activity the most appropriate means for addressing this issue?:*
Effective programs and policies must be based on accurate resource assessment and management characterization. GIS provides a powerful tool to maintain accurate data, assess the interrelationship of data layers, and undertake analysis of those interrelationships. This will help the Maine Coastal Program move toward ecosystem-based management rather than managing each issue separately.

d) *General Workplan:*
Please refer to the Public Access Strategy

e) *Summary of costs:*
Please refer to the Public Access Strategy

f) Likelihood of Success:
High – During the pilot phase of the Coastal Zone Management Performance Measurement System, outreach to MCP's networked agencies indicated a shared need for this type of cooperative approach to data management.

2. Work on developing a source of state match for habitat restoration activities. MCP will research options, develop a white paper, and work with legislature and other agencies as appropriate to develop funding mechanism.

The current fiscal situation makes the ultimate success of finding a source of state match for restoration projects less than certain. However, undertaking the research necessary to develop such a source is imperative and without this background work, it is highly unlikely that MCP would be well positioned to accomplish this when the fiscal condition improves.

a) Program Change:
This would support a policy change relating to the funding of habitat restoration.

b) What is the anticipated effect of the program change?:
Identifying a source of state match would help to insure the continued success of the restoration program.

c) Why is this activity the most appropriate means for addressing this issue?:
An accurate assessment of the current programs, policies, and activities related to habitat restoration is essential in order to craft a proposal which would lead to a source of state match.

d) General Workplan:
FY07 Conduct research, work with agencies and legislature, draft white paper.

e) Summary of Costs:
FY07 $15,000 for MCP staff resources

f) Likelihood of Success:
Completion of white paper – high; development of state match – uncertain – tight state budgets with no indication of increasing resources make the likelihood of procuring a source of state match very unlikely.

3. Volunteer Monitoring Program.

There has been a substantial increase in the amount of coastal wetland restoration over the last 5 years. However, the state lacks a coordinated monitoring program to assess the success of these restoration projects and to inform new projects. MCP proposes to work with partners on the development of a volunteer monitoring salt marsh program. This program will be based on similar highly successful programs in New Hampshire and Massachusetts. There is a highly acute need for such monitoring program in Maine and the likelihood of success is very high based on similar experiences in New Hampshire and Massachusetts. MCP will work with other restoration partners to develop and implement this program.

a) Program Change:
This strategy would lead to the development of a new volunteer monitoring program.

b) What is the anticipated effect of the program change:
The monitoring program would increase the state's ability to assess the success of restoration projects and to inform new projects.

c) Why is this activity the most appropriate means for addressing this issue?:
Limited resources, both financial and staff, make it unlikely that this information will be gathered through current programs. Trained volunteers offer a mechanism through which quality data can be gathered.

d) General Workplan:

FY07	Work with restoration partners to develop volunteer monitoring program; purchase needed equipment.
FY08	Recruit and train volunteers for first season of monitoring; work to develop alternate source of funds.
FY09	Continue with second season of monitoring; secure alternate source of funds.

e) Summary of costs:

FY07	$10,000
FY08	$7500
FY09	$7500

4. Strategies not using 309 funds.

MCP will continue to work with partners on programs that address the need for meaningful compensation options within the coastal zone through in lieu fee and Beginning with Habitat.

Cumulative and Secondary Impacts: Assessment

Section 309 Programmatic Objectives

I. Develop, revise or enhance procedures or policies to provide cumulative and secondary impact controls.

Resource Characterization

1. Identify areas in the coastal zone where rapid growth or changes in land use require improved management of cumulative and secondary impacts (CSI). Provide the following information for each area:

- Type of growth or change in land use (e.g., residential, industrial, etc.)
- Rate of growth or change in land use
- Types of cumulative and secondary impacts

Maine's coastal towns continue to experience intense development pressure. Currently, almost half of the state's population lives in coastal towns. From 1990 to 2000 the population of coastal towns grew 6% to 565,645. Maine's coastal population is expected to increase another 9% by the year 2015. Consequently, there will be approximately 21,000 more housing units in Maine in 2015 than there were in 2000, based on an average of 2.39 people per household obtained from census data. The highest rates of growth along the coast are occurring in towns located in southern and mid-coast Maine. Several coastal towns in York, Cumberland and Hancock counties experienced a 30% or greater increase in population from 1990 to 2000 and are expected to grow at least another 20% by the year 2010 which is more than twice the average growth rate for the state.

While Maine's Growth Management Act asks municipalities to identify targeted growth areas and to enact implementation programs to direct growth towards these areas and away from outlying areas, an average of 70% of development still occurs outside these designated growth areas. Maine's coastal towns continue to experience intense development pressure. Towns are struggling to deal with sprawl and its resulting impacts on natural resources and town budgets. Coastal towns continue to see changes to the character of their shorefront as residential development along the coast increases in pace and value. The types of cumulative and secondary impacts that are being seen include increased amounts of impervious surface and associated runoff; habitat disturbance and loss; change to the traditional coastal character away from one based on a close association of the coastal residents to the coastal resources. Of the total number of restoration opportunities identified in three coastal watersheds, 75 % relate to restoration of the riparian buffer. (See Wetlands Management Characterization)

Area	CSI Threats/Sensitive Coastal Resources
Coastal wetlands	hardening of the upland edge sea level rise invasive species increased NPS from development and impervious surfaces habitat fragmentation
Riparian buffers	vegetation loss increased development invasive species habitat fragmentation
Nearshore environments	increased NPS from development invasive species habitat fragmentation resource harvesting
Large unfragmented blocks	fragmentation from development and new road
Beginning with Habitat focus areas	threats from development
Coastal Rivers	depleted populations of sea-run and other fish due to limited fish passage, habitat alteration, pollution and other factors.

Management Characterization

1. Identify significant changes in the state's ability to address CSI since the last assessment (e.g., new regulations, guidance, manuals, etc.). Provide the following information for each change:

- Characterize the scope of the change
- Describe recent trends
- Identify impediments to addressing the change
- Identify successes in improved management

Management changes that relate to Cumulative and Secondary Impacts of Development are also discussed in other sections of this assessment (Coastal Hazards, Wetlands.) The discussion in this section includes efforts related to tracking impacts of development, growth management, smart growth, regionalization, municipal technical assistance, and coastal nonpoint source pollution.

Tracking Cumulative Impacts of Development

Development of new digital land cover and imperviousness data. Land cover indicates the type of vegetation or non-vegetative cover that exists in an area. This information is crucial to organizations monitoring habitats, forest condition, environmental quality, development and change. Imperviousness data indicates where water runs off rather than infiltrating into the landscape. During the last assessment period, the Maine Coastal Program partnered on a multi-agency project

to update the state's 11 year-old digital land cover data, improve its resolution, and develop an imperviousness layer. A unique aspect to this project was the collaboration between state and federal agencies. The State worked with NOAA and the USGS to implement a project through which land cover and impervious databases were developed to meet both national and state requirements. This collaboration saved time and money for both federal and state agencies. The map was developed in two distinct stages, the first stage was the development of a state wide land cover data set consistent with the NOAA Coastal Change Analysis Program (C-CAP) and National Land Cover Dataset (NLCD) land cover map. The second stage was: a) the update to 2004 conditions, b) a refinement of the classification system to Maine specific classes and, c) a refinement of the spatial boundaries to create a polygon map based on 5 m imagery. Given that this data layer is newly created, we can not use it to track recent and historical changes in land use. However, it will serve as a baseline against which we can compare future changes.

The NOAA C-CAP data has recently been updated for the northeast region and will be utilized by MCP to assess impacts of development. The C-CAP data layer does not provide the same level of detail as the state's land cover data and is thus more useful at a regional rather than a town level.

Growth Area Mapping Project. This project involves GIS mapping of designated growth areas in municipalities with adopted comprehensive plans that have been found consistent with Maine's Growth Management Act by the Maine State Planning Office. The compilation and publication of this data through the Maine Office of GIS will assist the Land Use Team and all state agencies to comply with 30-A MRSA §4349-A, which requires growth related capital investments to be made in designated growth areas or surrogate areas. A geodatabase structure has been created and data will be collected by regional planning council GIS personnel, the SPO GIS Coordinator, or by a consultant. SPO will also use these mapped growth areas as a base to overlay the utility connection data we are now collecting from the major utility companies to track the amount of growth occurring in designated growth areas.

Tracking development at a municipal or regional level. In addition to the statewide data listed above, smaller scale projects are being undertaken at a town, county or regional level to help these areas monitor development and plan for future growth.

- *Time Series of United States Geological Survey (USGS) Topographic Maps.* Changes in the number of structures across a time series of USGS maps have been used to track development trends. For example, in the town of Wiscasset, there were 486 buildings in 1970. This number increased more than two and a half times to 1307 structures in 2002. In addition to an assessment of growth over time, information on trends of location of development can also be obtained from these maps. Gaining insight into historical growth patterns helps towns plan for the type of growth they would like to see in the future. Time series are available for 14 coastal towns and were generated for ME DOT by land use planner Bob Faunce and the Sheepscot Valley Conservation Association GIS Support Center.
- *The Sagadahoc Region Rural Resource Initiative.* MCP has recently undertaken a 12-town regional project designed to develop an open space master plan aimed at preserving the rural resources and character of this quickly growing region. Coastal Program funds are being used for a regional buildout analysis as part of this project. The buildout analysis will provide insight into the effects of projected growth and development on the region and will give the 12 municipalities a framework within which to discuss long-term and cooperative solutions to preserving the region's resources and character.

Smart Growth (accomplished with CZMA Section 306 and state funds)

The Community Preservation Advisory Committee (CPAC) was created by the 120th Legislature (PL2001 c648) to advise the Governor, the Legislature, SPO and other pertinent state agencies and entities on a wide range of matters relating to the impacts of land use and development, including affordable housing, rate of growth ordinances (i.e. building caps) and Growth Management Act reforms. The CPAC is scheduled to expire as a committee in 2008, but could be re-authorized if efforts are viewed as helpful.

Resolve 73 was passed by 122nd Session of the Maine Legislature in 2005, instructing the State Planning Office (SPO) to undergo an evaluation of the Growth Management Act. The Resolve instructed SPO to undertake a study of current state law, policy and procedures regarding land use planning, management and regulation. The purpose of the study was to review the efficacy of the growth management laws and to identify changes in state law, policy and procedures needed to facilitate more efficient and effective land use planning. This effort builds on an evaluation of the Growth Management Act in 2003 that made significant findings and recommendations for improving the quality of planning and development in Maine. Implementing recommendations from this assessment will be challenging based upon the state's current fiscal situation, staff capacity, the current lack of regional structure to implement planning and review at a regional level, and the reality that no one agency or level of government is able to achieve the goals of the Act alone.

As part of the Growth Management Act review, the State Planning Office (SPO) conducted focus groups and interviews, and undertook an intense two-day summit that attracted about 100 people, and worked closely with a number of other groups. The anecdotal data that was gathered during the process clearly indicates that the strategies towns are using to prevent sprawl and all of its accompanying problems are not working as well as the Act originally envisioned. SPO's NOAA Coastal Fellow (starting in August 2006) will be charged in part with creating a solid data set to verify or refute that anecdotal data. In the meantime, preliminary conclusions are that Maine must make significant changes in the implementation of the Growth Management Act if we hope to make an impact on the cumulative impacts of development. The problem is particularly acute in the coastal region where development pressures are strongest.

Enacted in 2000 at the Governor's initiative, 5 MRSA §3307-F established the Maine Downtown Center housed in the Maine Development Foundation (MDF) and overseen by MDF, the State Planning Office, and the Department of Community Development. The Center which is an affiliate of the National Maine Street Program with the National Trust for Historic Preservation (NTHP), currently serves six official "Main Street Maine" communities, four of which are in the coastal region: Saco, Bath, Gardiner, and Eastport. A focus of the Downtown Center is the re-use and rehabilitation of existing infrastructure and development in our built-up areas; having the effect of preventing "greenfield" development. Although the program is still too new for SPO to be able to measure its direct impact, there is early anecdotal evidence of revitalization in these four towns. The Maine Downtown Center is tracking indicators of success that were delineated by NTHP. Ultimately, these indicators will be folded into the measures of success for the Growth Management Act.

Public Education and Outreach (CZMA Section 306 and State funds)

The following publications were created to assist towns with the cumulative impacts of development and to inform the public about issues related to growth and development:

Comprehensive Planning: A Manual for Maine for Maine Communities (2005 Edition). This manual is written for citizen planners: the members of a comprehensive planning committee, boards of selectmen, or planning boards charged with preparing a comprehensive plan, and the many parties of interest who may be participating or advising in the process. It is part "how-to," part suggestions for policy, and part tool box. Each of its 19 chapters addresses a requirement of the Growth Management Program. This is the new foundation document for all towns doing a plan in Maine. It is the how-to manual used by all Maine coastal communities writing a comprehensive plan. The additions to the manual regarding process, committee composition, and visioning are significant and have been well received. All users of the manual have commented on its improvements and are following the new recommendations. The expectation is that this will result in better process, therefore better product, and eventually better outcomes.

Updating Your Comprehensive Plan: A Guide for Making Plan Updates Bolder and Smarter (2003 pre-publication draft). This handbook provides guidance to communities that are updating or considering updating their comprehensive plans. A companion document to the one above, this document contains dozens of specific "dos and don'ts" for towns doing a plan update including dozens of possible strategies to influence development patterns, protect public investment in infrastructure, and protect the environment. We use this document nearly as much as the one above and rely heavily on the implementation recommendations outlined in the material. This document has been responsible for the promotion of differential rate of growth ordinances, seen by SPO as one of the most significant tools to influence development patterns available. This tool limits growth in rural areas, but not local growth areas, ensuring that local goals are achieved.

The Great American Neighborhood - A Guide to Livable Design (2005). This illustrated guide presents 'traditional neighborhood design',' new urbanism,' and 'neo-traditional design' within the context of Maine. The guide provides residential developers, homebuilders, and town officials with a set of principles and design ideas that can be used to create the livable, quality neighborhoods that homebuyers are looking for. When adapted to fit specific sites and projects, these principles can help developers respond to these market preferences, stem sprawl, and direct growth to selected 'growth areas' within the community. This award winning document (from Maine Association of Planners and the Northern New England Chapter of the American Planning Association) has seen some use by its intended audience, developers. Additionally, professional planners and municipal officials are using it to create local ordinances that allow the Great American Neighborhood to be built, where most regulations prohibited such development during the past 30 years. These changes, allowing compact development through local regulation, is expected to increase the likelihood that developers will build such developments again, as they did prior to 1970.

Municipal Handbook of Smart Growth Ordinances and Policies (2005). A handbook of model ordinances and policies to guide the development of traditional neighborhoods and support smart growth.

Community Visioning Handbook (2003). This handbook describes what a community vision is, provides a step-by-step guide to creating a community vision, and provides case studies from several Maine communities. This document is another of the foundation documents used by coastal communities when they work to create a local comprehensive plan. A critical missing element of earlier comprehensive planning efforts was the lack of a cohesive local vision for a municipality. We have received a great number of positive reactions to this manual from municipal officials who use it to create a vision for their town during the planning process. With more highly integrated plans can only come more effective outcomes.

Creating a Process for Reviewing Developments of Regional Impacts (DRIs) in Maine (2004) prepared by Southern Maine Regional Planning Commission. This report was prepared in response to concerns raised in the wake of 2002 local referendum questions regarding the proposed siting of a resort casino in Southern Maine. The report provides an assessment of existing state review mechanisms in Maine and identifies gaps in the process. A review of national best practices on regional impact review is provided with recommendations for regional impact review in Maine. This white paper has been the foundation of discussions of this topic in the last two years and informed the final version of the evaluation of the Growth Management Act with respect to developments of regional impact.

Indicators of Livable Communities (2002) prepared by Maine Development Foundation for the Land and Water Resources Committee of the Maine State Legislature This report identifies 23 indicators, that, when viewed together, provide a definition of Smart Growth in Maine. It provides a baseline from which to track and monitor impacts of future development and land use decisions.

Model Subdivision Ordinance for Maine Communities prepared by Southern Maine Regional Planning Commission (1996, update will be completed May 2006) This product is still in production, but when completed it will be the basis for all subdivision regulations adopted by Maine towns just as previous versions of the document have been.

Analysis of per capita expenditures suburbanizing communities in Maine (2005) prepared by the New England Environmental Finance Center at the University of Southern Maine. This study examines per capita expenditure trends of ten Maine communities over a 35 year time period from 1970-2000. It analyzes municipal costs and their relationship to growth from a variety of perspectives. This product has been used by the Brookings Institution as part of their work regarding the Maine economy. It is also an important background piece used in SPO work describing the change that municipal finances undergo as a community urbanizes and suburbanizes.

Technical Assistance Documents and Bulletins (CZMA Section 306 and State funds)

Financing Infrastructure Improvements through Impact Fees: A Manual for Maine Municipalities on the Design and Calculation of Development Impact Fees (2003). This handbook is designed to provide Maine communities with the information and tools necessary when considering implementation of an impact fee ordinance. The manual includes information on issues a town should consider before implementing an impact fee ordinance, examples of Maine towns using impact fees, and spreadsheets to calculate impact fees for parks and open space, school infrastructure and transportation infrastructure.

Other Items (Section 306 and State funds)

The Land Stewardship Resource Guide (2003) provides a listing of financial and technical assistance programs available to landowners and municipalities to support long term protection of forestry, farming and open spaces.

Reports to the Legislature and Governor on Growth Management (Section 306 and State funds)

Revitalizing Maine's Downtowns: A report resulting from Executive Order 16 FY04/05: An Order to Strengthen and Restore Maine's Downtowns (2004)

We Have a Choice – Report to the Joint Standing Committee on Natural Resources to Evaluate Maine's Growth Management Program (2003)

Final Report of the Task Force to Study Growth Management (2001)

Regulatory Changes (State funds)

MDEP Scenic Impact Regulations. In June 2003 the Maine Department of Environmental Protection adopted regulations (06-096 Chapter 315, effective 6/29/2003) for evaluating impacts to existing scenic and aesthetic uses resulting from activities in, on, over, or adjacent to protected natural resources subject to the Natural Resources Protection Act, pursuant to 38 MSRA §480-D (1). Scenic resources are defined as public natural resources or public lands visited by the general public, in part for the use, observation, enjoyment, and appreciation of natural or cultural visual qualities. These regulations are a tool that can be used to protect against and mitigate unwarranted impacts on scenic views and qualities, at least around designated public scenic resource areas.

Report to the Maine Legislature's Joint Standing Committee on Natural Resources, February 2006, Resolve to Increase Wetland Protection by the Maine Department of Environmental Protection. In June 2006, MEDEP submitted this report to the Legislature in response to a Resolve which tasked the MEDEP to assess the cumulative effects of small impacts to freshwater wetlands. This report details the MEDEP's assessment of this issue and their recommendations on how best to manage this issue given current budget and staffing constraints. The MEDEP recommended that the threshold for required compensation be dropped from impacts of 20,000 sq. ft. to projects with impacts of 15,000 sq ft and greater. This brings the compensation threshold in line with that of the Army Corps of Engineers and would increase wetland mitigation acreage by approximately 70 acres/year. A second recommendation is to apply the habitat standard in addition to the water quality standard already applied to those projects impacting less than 15,000 sq. ft. The third important recommendation of this report is the implementation of an in-lieu fee compensation program for wetland impacts per existing statute in 480-Z(3) of the Natural Resources Protection Act.

Other Technical Assistance – Beginning with Habitat (Section 309 and state funds; other sources of support from grants.)

During the last five years, the *Beginning with Habitat* program was launched in earnest. The program, developed and steered by a collaboration of state, federal, and NGOs, provides habitat data and technical assistance to towns, land trusts, and regional groups. The goals of this program are: to inform planning efforts and decisions; to guide growth away from critical resources; and to maintain the ability of Maine's landscapes (both structure and function) to support wildlife. The initial launch of *Beginning with Habitat* focused on getting the information into the hands of individual municipalities as they went through the comprehensive planning process. The program now intends to 1) develop a program of targeted, in-depth assistance to towns and land trusts in the two regions of Maine with the highest development pressure; 2) improve the information BwH provides to local planners to address identified needs in the areas of coastal resources, aquatic habitats, grassland habitats, and habitat connectivity; and 3) work with partner agencies and organizations to ensure that Beginning with Habitat principles and data are incorporated into conservation and land use planning and priorities at local, regional, and statewide levels throughout Maine. This program has received 309 funds.

Section 309 funds have also been used to support a 12-town regional open space planning initiative along mid-coast Maine. This project, developed in conjunction with the regional planner, addresses the region's identified sense of cumulative loss of rural character and open space. The goals of this project are to develop a regional open space plan based on Beginning with Habitat data, review the efficacy of shoreland zoning in the region and make recommendations on how to more effectively protect shoreland habitat, and to develop a model inter-municipal agreement designed to allow towns to share growth and rural designations in their respective comprehensive plans.

Non-Point Source Pollution (CZMA Section 310)

Reducing the impacts to water resources has continued to be a high priority for the State. Impairments to water quality are due to increases of nutrients, bacteria, sediment, PAHs, toxics, etc. The Coastal Nonpoint Source Pollution Program has been vital in the development of various programs and projects that address the cumulative and secondary impacts of development using CZMA Section 310 funds. The MCP participated in the revision to the Maine Stormwater Rules (38MRSA S 500 and S 502), the Maine Stormwater Best Management Practices Manual, and the Marina and Boatyard Best Practices Manual. The Maine Coastal Program has been integral in the development and implementation of the Maine Healthy Beaches Program, the Maine Nonpoint Education for Municipal Officials Program (NEMO), and the Maine Clean Marina Program. The Coastal Program has continued to work to provide technical assistance to local watershed groups and municipalities in the form of Model Stormwater Utility and other ordinances, offering small watershed grants, providing capacity building, and strategic planning.

The chief impediment to consistent and sustained progress on nonpoint source continues to be a lack of funding. Coastal NPS was identified in the both the Pew and Ocean Commission reports as a major threat to the marine and coastal environment, yet federal funds for support of associated programs has been reduced.

- *Stormwater Management*: To address the impacts associated with cumulative and secondary impacts of development Maine updated the Stormwater Rules (38 MRSA S 500 and S 502) and Best Management Practices Manual. The updated rules work more aggressively towards protecting surface and groundwater resources and encourage the use of Low Impact Development techniques in the site design process. The Rules shift to standards that rely upon a range of specified BMPs, while retaining flexibility to allow appropriate alternatives and establishes general stormwater standards for all watersheds. The across-the-board standards increase protection for both pristine and threatened water resources, while minimizing incentives for sprawl. Maine has received delegated authority to implement the National Pollutant Discharge Elimination System (NPDES), becoming the Maine Pollutant Discharge Elimination System (MEPDES). The Maine Coastal Program developed a Model Stormwater Utility as a means to outline the municipal funding to cover the costs for improvements to water resources in developing areas. The MCP is in progress of developing a model Low Impact Development Ordinance to assist local governments in implementing alternatives to traditional designs in means to reduce water quality impacts.

  Impediments to stormwater management include the following issues: a) Local governments have a poor understanding of how to accommodate new growth while protecting water resources; b) There is a lack of awareness of Low Impact Development techniques and their applicability; c) There is a lack of awareness of how the town's current regulations may conflict

with the new Stormwater Rules; and, d) Local governments lack the understanding or capacity to implement funding mechanisms to support stormwater management requirements.

- *Marinas and Boatyards*: To address the needs of the growing boating industry in Maine, the Maine Marina and Boatyard Best Management Practices Manual was revised to further protect surface and subsurface water quality in reference to marine maintenance activities through a stakeholder based process. The Maine Clean Marina Program was piloted in Casco Bay and expanded coastwide to encourage voluntary compliance of regulations through technical assistance.

  Impediments to improving practices at marinas and boatyards include the following issues: a) participation in the Clean Marina Program has not happened as quickly as anticipated likely due to the high demand on the yards for services from customers; b) lack of awareness of how the Clean Marina Program could assist the yards in becoming compliant with the new MEPDES industrial permit; and c) lack of awareness among the general public about marina and boatyard impacts.

- *Watershed Management*: The Maine Coastal Program continues to support local watershed activities through direct technical assistance, ordinance development, and grant opportunities. The Maine Coastal Program continues to support the Maine Nonpoint Education for Municipal Officials Program (NEMO) as a major sponsor and through a presence on the executive committee. The MCP has been an active supporter of the Maine Watershed Management Committee, a statewide interagency information exchange forum. To address the impacts from private septic systems, the Maine Coastal Program coordinated with the Maine Departments of Environmental Protection and Health and Human Services to develop a septic system certification, inspection and tracking program for the coastal areas.

  Impediments to improved watershed management include the following issues: a) lack of policy change on the part of local governments after receiving assistance from Maine NEMO; and b) the high rate of turnover in local government requires repeat education of elected decision makers.

<u>Fisheries Restoration - Penobscot River</u>

On June 25, 2004, Governor John Baldacci joined Secretary of the Interior Gale Norton and leaders from the Penobscot Indian Nation, PPL Corporation, and a coalition of non-profit conservation organizations, Penobscot Partners, to announce the parties' signing of a final agreement for restoration of the anadromous fisheries of the Penobscot River while maintaining hydropower production. The agreement was officially filed with the Federal Energy Regulatory Commission (FERC). The major components of the agreement call for: acquisition of PPL's Veazie, Great Works and Howland dams by a non-profit entity which will remove the Veazie and Great Works dams and build a state of the art fish passage at the Howland dam; installation of state of the art fish passage and enhanced power production at PPL's remaining dams on the lower Penobscot; and settlement of the parties' disputes regarding licensing of the hydro projects subject to the settlement.

In 2005-2006, FERC and DEP approved the power production increases called for by the settlement and parties subsequently withdrew pending appeals. At present, the non-profit entity which acquired an option to purchase the Veazie, Great Works and Howland dams is actively involved in fund-raising, outreach, and study efforts in preparation for acquisition and decommissioning of the projects as provided in the settlement.

DMR, in consultation with the Atlantic Salmon Commission and the Department of Inland Fisheries and Wildlife, has begun development of a fisheries management and operations plan for restoration of diadromous species to historical habitat in the lower Penobscot River basin that will be made available by the dam removals and enhanced fish passage provided for by the Penobscot hydro settlement described above.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy (i.e., inadequate authority, data gaps, inadequate analytical methods, lack of public acceptance, etc.).

Smart growth and growth management

Maine's current geopolitical structure of home rule and inadequate regional governance structures makes it difficult to undertake planning on a scale that could help address development issues in a manner that would support growth, minimize water quality and habitat impacts, while maintaining the rural and coastal community character identified as important to the region's residents.

There is a lack of awareness of options to traditional development and nonpoint source management.

There is a lack of incentives for and awareness of options to traditional development.

Coordination is necessary to support government agencies doing a more efficient job of focusing investments to better allocate and leverage resources and to support smart growth. Shrinking budgets make this type of analysis and policy work essential.

The current comprehensive planning process puts heavy demands on municipalities, often exhausting available energy well before a town gets to the implementation phase of the planning process.

Towns are finding themselves dealing with increasingly complex development issues. There is a need for more technical assistance material to assist communities with planning and implementation, including a website redesign to better deliver this information to the public.

The State currently lacks an effective method to track development. It is generally accepted that in order to be able to adequately measure the success of Maine's efforts to manage growth, its location must be tracked over time although the legislature has been unwilling to fund this effort.

Beginning with Habitat:

Beginning with Habitat focus areas cross municipal boundaries. Planning effectively for conservation of these areas requires analysis of local zoning and ordinances, the development of inter-municipal agreements, and collaboration between many organizations and levels of government. This type of effort is frequently beyond the capability of the municipalities involved

and there is a lack of resources for developing and implementing proactive management strategies for these focus areas.

Shoreland Zoning

Shoreland zoning has been in place for more than 30 years. It is unclear how effective it has been as one of the state's major tools in maintaining water quality and other values associated with the riparian zone. A small study of 6 midcoast towns indicated a wide variation in understanding of shoreland zoning ordinances and variable and ineffective enforcement within and between towns. With increasing levels of development along the water's edge, consistent and effective tools are essential to maintain the integrity and health of the riparian zone. NOAA's CZMA Section 312 Evaluation of the Maine Coastal Program in 2000 highlighted the need for an evaluation of the effectiveness of Shoreland Zoning.

Shoreline Armoring

NOAA's CZMA Section 312 Evaluation of the Maine Coastal Program in 2004 encouraged MCP to examine the extent of rip-rap along the Maine coastline and to review the standards for placement of rip-rap under the permit-by-rule program. The intent of this work it is determine if alternative permitting methods or additional standards are needed to lessen or mitigate the habitat damage resulting from the cumulative impacts of riprap development.

Diadromous Fish

There is a need for a comprehensive state management plan to restore, protect, enhance and manage self-sustaining populations of native diadromous fishes.

Coastal non-point source pollution:

There is a lack of awareness and education of options to traditional development and nonpoint source management.

There is a need to expand the Clean Marinas and Boatyards program throughout the coastal zone.

2. What priority was this area previously and what priority is it now for developing a 309 strategy and designating 309 funding and why?

Last Assessment	This Assessment
__x__ High	__x__ High
_____ Medium	_____ Medium
_____ Low	_____ Low

Coastal development increases the amount of impervious surface in the coastal zone and along with that come an increased amount of non-point source pollution, habitat fragmentation and degradation. The additive nature of these threats along with the need to improve ways of tracking cumulative impacts makes this issue area a high priority for the Maine Coastal Program.

Cumulative and Secondary Impacts: Strategy

Strategies to be funded by CZMA Section 309 monies

1. Amend Maine's Growth Management Act (GMA) and incorporate the Act into Maine's approved coastal program.

SPO's evaluation of the Growth Management Act and finalization of recommendations with the Legislature is slated for spring 2006. It is anticipated that the following four types of changes will be included in the final recommendations:

- Refocus efforts on regional planning rather than municipal planning -- Reallocate funding to regional entities to conduct inventories and analyses, create policies, and implement plans on a multi-municipal or regional scale. Create guidelines for the development of regional plans and co-sponsor one or more regional plans in the coastal zone.

- Focus state agency investments and incentives towards regions that plan for growth and implement the mechanisms to affect change. Work with other governmental agencies to better focus priorities and investments, building on the work completed over the past ten years. This ongoing effort is being driven by both a desire on the part of state agencies to better allocate and leverage revenues and the shrinking total revenues making coordination increasingly necessary.

- Amend the Growth Management Act and the rules to a) reduce the amount of material submitted to SPO; and b) reduce the requirements regarding the type and amount of data a town has to collect and analyze to create a comprehensive plan.

- Revise technical assistance efforts for towns and regions by conducting a social marketing campaign to 1) understand Maine residents' motivations regarding acceptance of land use regulation tools and to further understand motivation around land development decisions and 2) to create public outreach and technical assistance materials and tools that correspond with needs identified. Methods to improve delivery of technical assistance materials will include GIS, web site delivery, the creation of web interactive models, or other means. A NOAA Coastal Service Center Fellowship has recently been awarded for 2006-2008 to begin research for this effort.

a) *Program Change:*
Amendment of the Growth Management Act and the rules associated with it. Development of new guidelines for state investment to create incentives for the creation and implementation of regional plans. Revison of technical assistance programming. Incorporation of the Growth Management Act into the core laws of the MCP.

b) *Anticipated effect of the program change:*
The recommendations for revision to the Growth Management Act are intended to create better compliance with state growth management goals, eliminate onerous requirements for municipalities and to demonstrate effective growth management through regional pilot projects.

The changes recognize opportunities for landscape-scale planning on a regional basis. Incorporation of the Growth Management Act into the MCP core laws will result in a more integrated approach to coastal management.

c) *Why is this activity the most appropriate means for addressing this issue:*
Much effort has gone into evaluation of the current Growth Management Act and the development of changes to the Act which will lead to a more effective program of growth management. These strategies draw directly from the recommendations that have been presented to the Maine Legislature. Municipalities and regions have asked for more and improved technical assistance. Current research tells us that it is not enough to simply provide 'information' in order to effect change, programs have to be targeted to their audience, messaged in a way that is meaningful to that audience, and must provide concrete actions that can be implemented by the audience.

d) *General Workplan:*

FY06	Conduct interagency meetings, work with staff to draft amendments to GMA and work with towns to identify areas where municipal requirements can be reduced.
	Orient coastal fellow and create work program specific to the social marketing campaign.
	Contract with a marketing firm to identify appropriate markets to target with a message to affect homebuyers' decisions.
	Review NOAA rules for incorporation of local programs into CZM programs and conduct preliminary meetings with NOAA staff.
FY07	Work with Legislature on statutory changes to GMA, if any.
	Create two regional pilot projects where planning for specific subject areas can be done at the regional level, where it can be more effectively considered and implemented, reducing individual municipal requirements to address the same issues. Consider linkages with Beginning with Habitat regional projects and Bay Management Study recommendations.
	Hire a marketing firm to create the messaging, delivery mechanisms, and deliver the message. Launch websites and distribute printed materials.
	Submit routine program change or program amendment to NOAA for incorporation of the Growth Management Act into the Maine Coastal Program.
	Finalize guidelines for state investment in regions that create plans and strategies.
FY08	Re-test the market, the effects of the message, and re-message if necessary through additional delivery mechanisms.
	Continue regional projects.
FY09	Wrap up regional demonstration projects, evaluate and distribute lessons learned.

e) *Summary of Costs:*

FY06	$100,000
FY07	$100,000
FY08	$50,000
FY09	$10,000
FY10	$0

f) Likelihood of success:
High – There is currently a high degree of interest and momentum regarding changes to the Growth Management Act. Once changes have been made, social marketing techniques will provide a focused method to promote implementation of the changes.

2. Shoreland Zoning Assessment.

Undertake an assessment of the Shoreland Zoning program (SLZ); develop recommendations to strengthen the effectiveness of this core law; work with DEP and the Legislature to incorporate recommended changes to the Shoreland Zoning Act; submit changes to NOAA for incorporation into Maine approved program. This activity responds to an identified need in the last 312 Review of the MCP.

a) Program Change:
This strategy would result in changes to the Shoreland Zoning Act, one of MCP's core laws.

b) What is the anticipated effect of the program change?:
This program change will increase the effectiveness of the Shoreland Zoning Program in protecting coastal habitat.

c) Why is this activity the most appropriate means for addressing this issue?:
Changes to the Shoreland Zoning Act must be based on an assessment of the effectiveness of the current law.

d) General Workplan:

FY07	Organize interagency steering committee and develop plan for SLZ assessment
FY08	Implement SLZ assessment and assess results; begin development of recommendations
FY09	Work with steering committee to develop recommendations as needed based upon assessment results; develop implementation strategy
FY10	Begin implementation of recommendations

e) Summary of Costs:

FY06	$0
FY07	$50,000
FY08	$25,000
FY09	$10,000
FY10	$5,000

f) Likelihood of Success:
Uncertain – Shoreland zoning in its current form is a complicated response to the need for protection of the riparian zone. It is a state program implemented at the local level by each municipality. Changes to the Shoreland Zoning Ordinance at the state level require action by each of the state's organized towns.

3. Coastal Habitat Assessment.

Conduct an assessment of the extent of riprap currently allowed in coastal wetlands. Evaluate habitat implications, trends in development and the adequacy of current statutes and rules. Propose changes to regulations and pilot habitat-friendly shoreline treatments in 1-3 locations. Create a guidance document for use of habitat-friendly materials for shoreline stabilization.

a) *Program Change:*
This will lead to new policies on the use and permitting of riprap in the coastal zone. This activity responds to an identified need in the most recent 312 review of the MCP.

b) *What is the anticipated effect of the program change?:*
This program change will increase the effectiveness of policies in reducing impacts of rip-rap on coastal habitat.

c) *Why is this activity the most appropriate means for addressing this issue?:*
Change to the current policies on the use of riprap must be based on an assessment of the amount, extent, and impacts of the riprap allowed under current policies.

d) *General Workplan:*

FY08	Organize interagency steering committee; develop plan for assessment
FY09	Implement assessment and develop recommendations based upon results
FY10	Develop strategy to address and implement recommendations

e) *Summary of costs:*

FY06	$0
FY07	$0
FY08	$50,000
FY09	$20,000
FY10	$20,000

f) *Likelihood of success:*
High – MCP has a successful track record of interagency program evaluation.

4. Beginning with Habitat.

Work with two coastal focus areas to develop and implement conservation strategies based upon inter-municipal and land trust collaboration. These two areas will be chosen to demonstrate two different situations.

a) *Program Change:*
This project will provide case study material that can be used to develop new policies and technical materials to help coastal communities plan for growth in a manner that maintains the functional integrity of the landscape to provide wildlife habitat.

b) What is the anticipated effect of the program change?:
Better understanding of the interaction between planning for green space stewardship growth in the coastal zone.

c) Why is this activity the most appropriate means for addressing this issue?:
Maine's landscape is highly diverse in both ecological and political elements. Undertaking two pilot projects will help insure that policies and programs developed will be relevant to the spectrum of ecological and political systems.

d) General Workplan:

FY07	Beginning with Habitat steering committee assesses coastal focus areas and chooses two different types of focus areas to pilot this planning process. No additional resources will be required to complete this part of the work plan.
FY08	Work with municipalities and land trusts to develop conservation strategies; assess municipal zoning and ordinances; identify areas of conflict; identify possible funding opportunities; begin work on inter-municipal agreements.
FY09	Complete inter-municipal agreements; work with municipalities to implement agreements and changes to zoning and ordinance language.

e) Summary of Costs:

FY06	$0
FY07	$0
FY08	$20,000
FY09	$20,000
FY10	$0

f) Likelihood of success:
High – Beginning with Habitat is a highly successful and respected interagency program offering data and technical assistance to towns and regional groups. The program is well-positioned to undertake pilots to bring groups of towns together around shared resources.

5. Comprehensive GIS Database (see Strategy # 1 in Public Access and Wetlands section).

Develop a GIS system to track development, conserved lands, public access and restored acreage in the coastal zone using permit data from DEP and DMR (aquaculture lease data), conserved lands data from state agencies, and restoration information from compensation projects as well as community-based restoration projects. Tracking permit data is an essential piece of being able to assess the cumulative impacts of development to the State's natural resources.

MCP will work with state agencies to identify existing data and data gaps, develop a format for this GIS application, and develop a process for regularly updating the data. The technology to accomplish this type of interagency project has matured to point where the likelihood of success for such as an undertaking is very high. Please note that this project is also referenced in the Wetlands and Public Access Strategies. The timeline and budget appear under the Public Access section.

6. Diadromous fish restoration in the lower Penobscot River.

Support development and implementation of a fisheries management and operations plan for restoration of diadromous fishes to the lower Penobscot River and adoption of the plan as a state comprehensive plan for purposes of the Federal Power Act, as appropriate. This activity furthers prior coastal program activity in support of diadromous fish restoration on the lower Penobscot.

a) Program Change:

This strategy would result in development and adoption of a state diadromous fish management plan subject to consideration by FERC pursuant to Section 10a of the Federal Power Act. The goal of the plan will be to restore, protect, enhance and manage self-sustaining populations of native diadromous fishes (alewife, American shad, American eel, Atlantic salmon, Atlantic sturgeon, Atlantic tomcod, blueback herring, rainbow smelt, sea lamprey, shortnose sturgeon, and striped bass) within their historical habitat in the Penobscot River watershed for broad-based public use and benefit and in a manner compatible with the management of inland waters for resident fishes. The plan would focus on the transport of adult fishes to currently inaccessible spawning habitat to create populations imprinted in those waters, transport of adults fishes to one or more hatcheries to produce early life stages for stocking into nursery habitat, the provision of safe and effective upstream and downstream fish passage at non-hydropower dams and road crossings in the watershed, and the protection and improvement of habitat and water quality necessary to maintain fish populations in the watershed.

b) What is the anticipated effect of the program change?:

Development and implementation of this plan will further the mandates of the state resource agencies regarding fisheries and water quality by providing a detailed program for enhancement and restoration of the lower Penobscot River's diadromous fish resources, passage for which on the main stem of the river is addressed by the Penobscot River settlement discussed above.

c) Why is this activity the most appropriate means for addressing this issue?:

DMR is the state agency with primary management authority for diadromous fishes in Maine except Atlantic salmon, which is managed by the Atlantic Salmon Commission. A detailed management plan, focused on operations, will help identify and address any related natural resources issues (e.g., exotic species), ensure identification of financial and technical needs and efficient use of available funds, facilitate coordination with PPL on its related fish passage obligations, and inform and focus needed cooperation among federal, state and tribal fisheries management agencies.

d) General Work Plan:

FY06	DMR, DIFW, and ASC engage in meetings/consultations to develop draft fisheries management plan
FY07	Complete fisheries management plan, hold public meetings for comment
	Note: Efforts to complete the plan, which are dependent in part on available funding, may extend beyond FY07

e) Summary of Costs:

FY06: $15,000 (Source: Wallop-Breaux)

FY07: $20,000

f) Likelihood of Success:

Promising but uncertain - As noted in the Management Characterization, the non-profit entity that holds the option to acquire main stem dams on the lower Penobscot for removal is currently seeking to raise needed acquisition funds. Removal of the dams will require local, state and federal approvals. The fisheries restoration plan addressed by this strategy could facilitate the fund-raising efforts of the non-profit entity to purchase and remove the dams, and will be needed to raise funds for fish restoration once the downstream impediments have been addressed.

Strategies below will be funded by Section 310 Coastal Nonpoint Source Pollution funding

Stormwater

- Provide training to local governments in new Stormwater Rules.
- Train regional planning agencies in new Stormwater Rules.
- Implement Model Utility to provide funding base for stormwater management improvements.
- Complete and implement model Low Impact Development Ordinances
- Conduct training for local and regional officials on alternatives to traditional designs to protect water quality.

Marinas and Boatyards

- Continue to expand the program inland.
- Build more support for the program.
- Build an incentive based program for yards to exceed the standards for their MEPDES industrial activities permit.
- Reach private boat owners that perform maintenance in their backyard through outreach materials or incentive based services.

Marine Debris: Assessment

Section 309 Programmatic Objectives

I. Develop or revise programs that reduce the amount of marine and/or lake debris in the coastal zone.

Marine/Lake Debris Characterization

1. In the table below, characterize the extent of marine/lake debris and its impact on the coastal zone.

Source	Impact (significant, moderate, insignificant)	Type of Impact (aesthetic, resource damage, etc.)
Shoreline and recreational activities	Moderate	Dangerous debris items* Aesthetic
Smoking related activities	Moderate	Dangerous debris items* Aesthetic
Ocean waterway activities	Moderate	Resource damage dangerous debris items* Aesthetic
Dumping activities	Moderate	Resource damage dangerous debris items* Aesthetic
Medical/personal hygiene	Insignificant	n/a

**Most of the items listed as dangerous debris items are those that are harmful to marine wildlife with the exception of medical waste which is more likely to be harmful to humans.*

2. If any of the sources above or their impacts have changed since the last Assessment, please explain.

We continue to have a high impact from cigarette filters, fishery related activities and prepackaged food and beverage products.

3. Do you have beach clean-up data? If so, how do you use this information?

The MCP conducts a state-wide cleanup each year during Coastweek in collaboration with the International Coastal Cleanup and using data collection sheets provided by The Ocean Conservancy. The data are used to determine the sources of debris, to identify the top ten most-counted items and to record the presence of dangerous debris items which can prove fatal to marine species. The data enable us to improve our ability to trace the sources of debris. Additionally, this information allows us to create targeted educational programs aimed at fostering an understanding of how individual actions, such as littering and consumer choice, can have substantial impacts on the health of the marine environment.

Management Characterization

1. For the categories below, identify significant state ocean/Great Lakes management programs and initiatives developed since the last Assessment:

Category	Program or Initiative	Funding Source
State/local program requiring recycling	Ongoing program	State
State/local program to reduce littering	n/a	n/a
State/local program to reduce wasteful packaging	Buy Recycled and Close the Loop programs	CZMA Section 306
Marine debris concerns incorporated into harbor, port, marina, and coastal solid waste management plans	Maine Clean Boatyards and Marinas Program	CZMA Section 306
Education and outreach programs	Coastweek activities book Coastweek webpage	CZMA Section 306

2. For the changes identified above provide a brief description of the change:

- Characterize the scope of the change
- Describe recent trends
- Identify impediments to addressing the change
- Identify successes

Buy Recycled and Close the Loop encourages consumers to increase the market demand for recycled packaging materials. This project encourages a healthy market for the items which we recycle in our community. Purchasing recycled items creates a demand for recyclable material. Items which commonly contain recycled content include most cereal boxes, aluminum and steel cans and glass bottles. It is difficult to directly measure the success of this program given that recycled materials are found in a vast number of products.

The Maine Clean Boatyards and Marinas Program is a certification program which encourages the use of best management practices (BMP). In the past five years, the program has certified 10 marinas in the Midcoast and Portland Harbor regions. There are ten more being considered for certification at this time. As part of their best management practices, businesses are encouraged to have covered containers and signage for waste disposal, and to facilitate the recycling of items such as glass, aluminum, cardboard and plastic by providing appropriately marked containers on their property. This project is very beneficial in the reduction of debris generated by shoreline and recreational activities.

Monitoring of the Clean Marinas program consists of a yearly boatyard self-evaluation along with triennial recertification involving a site inspection and BMP checklist review by a Clean Marina Program staff member.

An impediment to addressing waste management at marinas is the lack of regulations addressing the hazardous waste that can be generated from washing the bottoms of boats.

Education and Outreach Programs at the Maine Coastal Program continues to provide educational materials and programs for school groups who comprise a large portion of our cleanup volunteers each year. We have been working on a new Coastweek Classroom Activity Book to compliment the yearly cleanup. It has gone through two revisions and will be piloted by a group of teachers who participated in the 2005 cleanup.

The Maine Coastal Program also has a web page devoted to the annual Coastweek cleanup. The web page provides information on how to organize or locate a beach cleanup and also includes links to teacher resources.

The value of the outreach and education program is in raising awareness among Maine's citizens of their connection to the marine debris problem. It is difficult to measure the direct impact of this raised awareness on the amount of marine debris found on the beaches each year given that the amount of debris is affected by a multitude of factors. However, the growth in the number of Coastweek volunteers from approximately 2,300 in the year 2000 to close to 2,900 in 2003 reflects the success of the program in raising awareness and concern about the problem of marine debris.

Impediments to addressing changes. One significant impediment is the lack of connection individuals make between their own actions and the problem of marine debris.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

Currently there is a need to address the problem of fishing industry debris, such as ropes, bleach bottles, light sticks and buoys. All of these items are composed of plastic and pose both a hazard to marine life and the aesthetic qualities of our shores.

In addition there is a need to identify ways to discourage harmful consumer behaviors, such as the improper disposal of cigarettes, and food and beverage packaging. These types of debris are also dangerous to marine life if ingested and damaging to the aesthetic quality of our coastal recreational areas.

There is a need to provide classroom activities that augment students' participation in the annual Coastweek cleanup and that enhance their understanding of the marine debris issue.

The prevalence of marine debris continues to impact the continuing health of our marine environments, as was indicated in the U.S. Commission Report on Ocean Policy (2004). Despite our efforts to clean up debris each year, we still are not seeing the reduction that we had hoped for. Where some activities, such as dumping, have decreased significantly, others such as littering, have not. Individuals engaged in marine related industries or recreation do not identify their actions as having a significant impact on the problem of marine debris and the degradation of the marine environment. It is vital to increase people's awareness of their contribution to the problem and to inspire behavioral change.

2. What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

Last Assessment	This Assessment
_____ High	_____ High
_____ Medium	_____ Medium
__x__ Low	__x__ Low

Although marine debris is a pervasive problem in Maine, the impact of marine debris is not considered to be a primary concern, when compared to other threats. New approaches are being developed for dealing with this problem and we continue to seek ways of reducing debris at the source. The Coastal Program continues to support and enhance cleanup programs during Coastweek.

Marine Debris: Strategy

The Maine Coastal Program will work to make individuals more aware of their connection to the marine debris problem and its negative effects on the environment. Towards this end, the Coastal Program will pursue the following strategies:

(Note: The Maine Coastal Program is not seeking 309 funds for the three projects that follow)

- Conduct a social marketing assessment to develop pilot projects addressing the problem of fishing industry debris, such as ropes, bleach bottles, light sticks and buoys.
- Conduct a social marketing pilot program to identify ways to discourage harmful consumer behaviors, such as the improper disposal of cigarettes, and food and beverage packaging.
- Obtain feedback on Coastweek Activity Book by surveying educators in the pilot study. Revise the activity book based on the surveys and print the revised edition.

Special Area Management Planning: Assessment

Section 309 Programmatic Objectives

Develop and implement special area management planning in coastal areas applying the following criteria:

- *Areas with significant coastal resources (e.g. threatened and endangered species and their critical habitats, wetlands, waterbodies, fish and wildlife habitat) that are being severely affected by cumulative or secondary impacts;*
- *Areas where a multiplicity of local, state and federal authorities hinder effective coordination and cooperation in addressing coastal development on an ecosystem basis;*
- *Areas with a history of long-standing disputes between various levels of government over coastal resources that has resulted in protracted negotiations over the acceptability of proposed uses;*
- *There is a strong commitment at all levels of government to enter into a collaborative planning process to produce enforceable plans;*
- *A strong state or regional entity exists which is willing and able to sponsor the planning program.*

Resource Characterization

Special Area Management Plans are one way to address existing or potential coastal resource problems such as coastal water pollution, and habitat degradation. SAMPs also offer the potential for development of ecosystem-based management approaches. Under federal guidance, a "designated special area management plan" includes the adoption of an enforceable policy or policies to accomplish the plan. Although Maine has not initiated the formal federal designation of certain places (specific land areas, geography, groups of towns) as special management areas, the following table lists more generalized areas subject to use conflicts that might be addressed through special area management planning.

Area	**Major Conflicts**
Nearshore embayments	Effects of land-based activities on marine environment Effects of over-harvesting; effects of harvesting practices Competition among users for space Conflicting perspectives on appropriate use Balancing statewide interests vs. local interests Lack of coordination among management entities Persistent difficulty in siting of marine-dependent uses
Beginning with Habitat Coastal Focus Areas	Habitat integrity/cumulative impacts of development
Nonpoint Source Priority Estuaries	Land development practices impact water quality that inhibit the ability to support desired marine/estuarine uses
Coastal regions	Dissatisfaction with municipal planning processes; lack of success of town-by-town approaches in addressing persistent problems like natural resource protection, coastal access, affordable housing, etc.

Management Characterization

Although Maine has not pursued federally designated special area plans, the State of Maine currently has numerous methods with which to protect critical areas. Beginning with Habitat and the Landowner Incentive Program identify areas of statewide significance as habitat for rare, threatened, and endangered species. BwH provides technical assistance in the development of conservation strategies and LIP provides funding to implement conservation strategies in these areas. CZMA 309 funding has been used to support a regional open space project in mid-coast Maine which focuses on identifying resources of regional significance, communication between municipalities, and development of conservation tools.

During the last assessment period, the MCP used 309 funding to develop two pilot regional bay management projects in Taunton and Muscongus Bay. These two projects serve as case studies for the development of management tools that can be implemented in bays along the Maine coastline to address the varied conflicting use issues found along the coast.

CZMA 309 funding was used during the last assessment period to fund habitat restoration site inventories in three priority coastal watersheds with existing community-based resources interested in restoration and conservation. Also during the last assessment period, the Southern Maine Beach Task Force developed a series of recommendations to create comprehensive beach management plans to address critical issues facing southern Maine beaches. This initiative also received 309 funding. Finally, coastal non-point source §310 funding was used to address pollution issues in Maine's priority coastal watersheds.

CZMA 306 funds were used for "regional challenge grants" to foster regional Smart Growth work among coastal towns. These projects have included conservation planning and implementation in the Mt. Agamenticus to the Sea region in southern Maine and the development of affordable housing plans in two other coastal regions.

The recent evaluation of the Growth Management Act (discussed in the Cumulative and Secondary Impacts section of this report) concluded that regional planning approaches offer potential to overcome pitfalls associated with town-by-town comprehensive planning and implementation. Formalization of improved regional planning will be developed in 2006 and 2007, including the launching of several pilot programs.

Note: Several of the projects mentioned in the above paragraphs are referenced in various sections of this report including: Coastal Hazards, Ocean Resources and Cumulative and Secondary Impacts.

Regional Management Projects		
Area	**Focus**	**Funding**
Taunton Bay	Bay area management	CZMA Section 309
Muscongus Bay	Bay area management	CZMA Section 309
Sagadahoc Region	Open space plan and implementation	CZMA Section 309 and 306
Spruce Creek	Restoration site inventory	CZMA Section 309
Southern Maine beaches	Integrated Beach Management Plan	CZMA Section 309
Lower Kennebec Estuary	Restoration site inventory	CZMA Section 309
Royal River	Restoration site inventory	CZMA Section 309
Coastal Watershed Protection Projects	Nonpoint source (NPS) pollution	CZMA Section 310

Significant impediments to implementing special area management plans

- Many of Maine's strongly independent municipal governments do not have a successful history of working together on cooperative projects, particularly those involving resource management and regulatory approaches.
- Some regional planning agencies and other regional entities suffer from organizational and fiscal capacity issues.
- State leadership of regional efforts may help get an initiative off the ground, but often results in lack of buy-in on the part of participants.
- Regional management planning projects are multi-year, costly endeavors.
- A common approach to regional management, i.e. the establishment of a new organization, can be difficult to sustain without ongoing government grants, especially when there are well established environmental organizations in the region that compete for limited resources.

Conclusion

1. What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

Maine has not formally designated any special management areas to date. Rather, we have considered inter-jurisdictional planning as a tool to address the impacts of development and encourage coordinated management of certain sensitive areas along the coast. Considering the current interest in regionalization in Maine (for land use planning and management and nearshore management in particular), the Coastal Program supports the use of special area management planning for future efforts in geographic areas with a high degree of use conflicts and a strong desire to work on regional solutions. MCP's utilization of special area planning in this way is discussed in the other areas of this plan. Given the interest in regional planning and the fact that the success of

several strategies in high priority issue areas (Ocean Resources, Coastal Hazards and Cumulative and Secondary Impacts) depends on regional, coordinated management, MCP views Special Area Management Planning as a high priority issue.

Last Assessment	This Assessment
__ High	__X__ High
_____ Medium	_____ Medium
__X__ Low	_____ Low

Special Area Management Planning: Strategy

It is premature to suggest that SAMP designation be applied to a specific geographic area along the Maine coast, and therefore premature to detail a strategy specific to a designated region. If a formal SAMP designation is chosen for a particular place, MCP will submit a detailed workplan to NOAA. As noted previously in this section, region-specific and place-based projects (that are not formalized SAMPs) are suggested and discussed in several areas throughout this document. Detailed strategies for moving forward with regional planning and management (which may ultimately lead to a SAMP designation) are discussed in the other sections of this document (see Ocean Resources, Cumulative and Secondary Impacts, and Coastal Hazards.)

Energy & Government Facility Siting: Assessment

Section 309 Programmatic Objectives

I. *Enhance existing procedures and long range planning processes for considering the needs of energy-related and government facilities and activities of greater than local significance.*

II. *Improve program policies and standards which affect the subject uses and activities so as to facilitate siting while maintaining current levels of coastal resource protection.*

Management Characterization

1. Identify significant changes in the state's ability to address the siting of energy and government facilities since the last Assessment (e.g., new regulations, guidance, manuals, etc.). Provide the following information for each change:

- Characterize the scope of the change
- Describe recent trends
- Identify impediments to addressing the change
- Identify successes

Establishment of the Energy Resources Council and the Office of Energy Independence and Security

In 2002, the Maine Legislature enacted a bill to create the Energy Resources Council (5 MRSA section 3327 *et seq.*) This executive branch entity facilitates more effective interagency cooperation regarding energy issues and advises the Governor, Legislature and state agencies in the formulation of state energy policy. In 2003, the Office of Energy Independence and Security was created within the Executive Department. The Director of that Office chairs the Council, which is comprised of the commissioners of the Departments of Environmental Protection, Transportation, Administrative and Financial Services, Economic and Community Development and Conservation, the Director of the Maine State Housing Authority, the Chair of the Public Utilities Commission, and the Public Advocate. Many of the Council's duties and responsibilities have been taken over by the Office of Energy Independence and Security. The Council still meets regularly to coordinate state agency energy activities. Limited funding for energy-related activities and staff of the Office of Energy Independence and Security has been the only real constraint. The Office of Energy Independence and Security and the Council's major successes to date include government lead-by-example efforts, passage of statewide energy efficiency and renewable energy legislation, Operation Keep ME Warm, solar energy rebate program, legislation requiring Maine's largest natural gas utility to offer energy conservation and efficiency programs, and energy conservation public service announcements and advertisements, and a pilot project for a Whole House Energy Efficiency Program.

Establishment of interagency LNG team

Currently, there are several pending proposals to site LNG projects on the coast in Washington County. These proposals, along with other now abandoned proposals for such projects on the southern Maine coast, have generated considerable discussion regarding the potential safety, economic, environmental, social costs and benefits of such projects. In light of the public interest in this issue and the importance of concerted state action to evaluate and address the range of issues presented, the Governor directed SPO to form an interagency team to coordinate state agency participation in the FERC process and related activities regarding these projects. Professional State Planning Office staff serves as the point person and overall coordinator of the team, which includes representatives of the Departments of Environmental Protection, Marine Resources, Inland Fisheries and Wildlife, Conservation, and Transportation, Public Safety, and the State Fire Marshal, and the Maine Emergency Management Agency.

Energy Policy Act of 2005

Recent changes in federal law made by the Energy Policy Act of 2005 and related changes to the CZMA and federal consistency regulations have the potential to affect the State's ability to address issues regarding siting of energy facilities. Those changes include the following:

- Amendment of Section 3 of the Natural Gas Act (NGA);
- Amendment of fish passage related provisions in the Federal Power Act (FPA);
- Reevaluation of oil and gas reserves on areas of the OCS subject to moratoria; and
- Changes to process for appeals to the Secretary of Commerce of state federal consistency decisions regarding OCS activities.

None of these changes appears to expand or otherwise enhance states' authority or ability to manage coastal resources in relation to energy projects. Arguably, these changes impose new legal or practical restrictions to effective exercise of such authority. The significance of these changes, and their resulting implications for management of coastal resources, will become clearer as these federal law changes are administered.

In addition, the Energy Policy Act of 2005 directs the Minerals Management Service (MMS) to develop a program and rules for leasing portions of the OCS for development of alternative energy projects. MMS recently issued an Advance Notice of Proposed Rulemaking to begin development of these regulations. This program has the potential to facilitate development of alternative energy projects, such as wind power, tidal power and wave power projects, in the Gulf of Maine region. Development of energy projects on the OCS may raise issues regarding potential effects on commercial fishing activity and other OCS uses and resources and associated land-side development. Projects in coastal waters, where existing uses are more varied and concentrated, may reasonably be expected to generate more such issues.

Tidal power development in the coastal zone

Since 2003, the Office of Energy Independence and Security has been working with the Electric Power Research Institute, the Maine Technology Institute, the Department of Marine Resources and other interested parties to better understand the potential of Maine's wave and tidal power resources, and to identify potential sites for development. It appears that Maine has an excellent tidal power resource. This effort is part of a national initiative of the Electric Power Research

Institute (EPRI) aimed at assessment and demonstration of the efficacy of tidal and wave power projects in various coastal areas of the United States. In May 2006, EPRI is expected to release its report indicating the commercial viability of tidal power development in Maine. In light of this effort, state policies encouraging development of indigenous, alternative energy resources, and market conditions, development of tidal power resources in Maine's coastal waters seems reasonably foreseeable. Proposals to develop tidal power resources in the coastal zone may reasonably be expected to raise issues regarding potential effects on commercial fishing and other uses and resources.

OCS development: Reenactment of Site Law Provision Regarding Oil and Gas Exploration and MMS' Five Year-Plan

Since the last assessment, the Legislature clarified that exploration or drilling for oil and gas on land or under water is subject to review under the Site Location of Development Act if the affected area is greater than 60,000 square feet (38 MRSA section 482, subsection 2, paragraph B). This change basically reinstates a longstanding authority in Maine's coastal management program that supplements state authority to review oil and gas development activities. In 1996, an amendment to the site law, PL 1995 c. 700, section 3, removed the above described drilling threshold. DEP had recommended this change following a review of its site law program, primarily because the provision appeared redundant with other permitting thresholds and did not appear to have been used or needed, although, as subsequently identified, DEP had relied upon the site law as one of the core laws used in reviewing and approving off-shore oil and gas exploration activities in the early 1980s. NOAA recently approved incorporation of this reinstated site law provision as a routine program change.

Due to long-standing federal moratoria, there have been no oil or gas exploration activities in U.S. waters in the Gulf of Maine for over two decades. There has never been commercial oil or gas development in this area, although natural gas resources off Canada's Scotia shelf have been exploited. Consequently, the State has had no occasion to develop agency expertise regarding oil or gas development nor a reasonably foreseeable need or opportunity to evaluate the efficacy of its enforceable policies to address offshore oil and gas development. The lack of such an assessment and implementation of resulting programmatic improvements identified as appropriate, if any, may be an obstacle to full realization of the intent of this site law provision and other state resource management objectives.

MMS' draft Proposed Five-Year Plan for 2007-2012 for OCS leasing for oil and gas exploration and development does not propose inclusion of the North Atlantic planning area, which includes the Gulf of Maine, among the areas subject to leasing. Under the Outer Continental Shelf Lands Act, only those areas included in the Five-Year Plan are subject to leasing. Consequently, it does not appear at present that OCS oil or gas leasing of the OCS in the Georges Bank region is probable during the next five-year period. MMS' proposed plan does note that several companies expressed an interest in inclusion of the North Atlantic region in the plan.

Bay Management Initiative (see Ocean Resources section)

In 2004, as part of a legislative package developed through a study of the State's aquaculture industry, the Legislature directed the State Planning Office and the Department of Marine Resources to undertake a two year study of options for use of "bay management" strategies in Maine's near shore environment and report recommendations to the Legislature's Marine Resources Committee

in January 2007. The outcome of the study, including any resulting changes in law, may affect the manner in which the State plans for or addresses energy development among other activities in near shore waters.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

The potential for alternative energy development, and to a lesser extent OCS hydrocarbon-related development, activities in the future suggests the importance of evaluation and enhancement as necessary of the energy-related aspects of the State's coastal program to improve the State's ability to maintain current levels of coastal resource protection when addressing any such activities.

Therefore, there is a need to:

- Train Department of Environmental Protection (DEP), Department of Marine Resources (DMR), and other natural resources agency staff regarding current alternative energy development technologies (principally wind and tidal power) to provide a knowledge-base for assessment of the efficacy of pertinent enforceable policies as applied to activities both in the coastal zone and on the OCS;
- Identify gaps in current state law that might frustrate efforts to maintain current levels of coastal resource protection when addressing renewable energy development activities in the coastal zone or adjoining OCS areas; and
- Identify potential program improvements to balance state renewable energy development and conservation policies as applied to the coastal zone and adjoining OCS areas and ensure adequate consideration of pertinent regional and national interests in accordance with the CZMA.

2. What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

The State believes that this topic should be considered a medium priority notwithstanding the significance of energy issues which are currently being addressed. The schedule for decisions on pending LNG projects, for example, precludes development and implementation of a pertinent 309 strategy. By contrast, the 309 strategies outlined below, are relatively forward looking and may help identify program changes to assist the State in addressing OCS and energy facility siting activities in the future.

Last Assessment	This Assessment
_____ High	_____ High
_____ Medium	__x__ Medium
__x__ Low	_____ Low

Energy & Government Facility Siting: Strategy

The State proposes the following 309 strategy

A review, led by DEP in consultation with SPO, the Office of Energy Independence and Security, and the Departments of Marine Resources and Conservation and other appropriate agencies, of the efficacy of the Maine Waters Development and Conservation Act, Site Location of Development Act, Natural Resources Protection Act, state water quality standards and other enforceable policies and pertinent state energy policies as applied to alternative energy development activities, (e.g., wind and tidal power) in coastal waters and adjacent OCS areas using current or anticipated development technologies.

The Energy Policy Act of 2005 directs MMS to develop a program and regulations for leasing OCS areas for use in development of alternative energy projects, such as wind, wave or tidal power generation projects. MMS recently issued an Advance Notice of Rulemaking as an initial step in developing such regulations. Moreover, the above noted congressional directive to MMS to inventory OCS hydrocarbon resources in the Gulf of Maine and other offshore areas now subject to federal leasing moratoria, and market and political factors suggest that future MMS on-site inventory activities and, in the event the potential for commercially exploitable hydrocarbon reserves is identified, subsequent industry exploration proposals are a possibility. However, MMS' draft proposed five-year plan for 2007-2012 does not include the North Atlantic planning area, which suggests that such exploration and development are not reasonably foreseeable.

The State has long placed a high priority on conservation, restoration and sustainable use of both coastal and OCS fisheries. While the State is not aware of any pending or imminent alternative energy development proposal in areas of the OCS proximate to Maine, development of tidal power resources in Maine's coastal waters is under consideration, offshore wind power development proximate to Massachusetts has been proposed and proven controversial, and interest in utilization of indigenous, renewable energy resources continues to grow and become more feasible as technologies mature and energy markets change. Consequently, development of a 309 strategy that considers state policies related to development of alternative energy projects in the coastal zone and adjacent areas of the OCS may be timely. Likewise, although the State is not aware of any pending or immediately foreseeable proposal regarding oil or gas inventory, exploration, or development in its coastal waters or the Gulf of Maine, the potential for OCS hydrocarbon-related activities supports a preliminary assessment of the State's ability to maintain current levels of coastal resource protection when addressing any such activities.

a) *Program Change:*
   This strategy will inform the development of guidelines, procedures and/or regulations, if and as deemed appropriate, to address foreseeable alternative energy projects in coastal waters and adjacent OCS areas.

b) *Discuss the anticipated effect of the program change or implementation activity:*
   This strategy, which is focused on tidal and wind power projects, is intended to ensure that the potential effects of renewable energy projects in the coastal zone on coastal resources and uses

are appropriately addressed in state core laws regulating development of renewable energy resources. Consequently, the project, if successful, may help facilitate siting of projects that meet applicable standards and help harmonize resource protection and renewable energy development goals.

c) Describe why this activity is the most appropriate means to address this issue:

State policy actively encourages development of alternative energy resources as a means to address both economic and environmental objectives. State policy also strongly supports commercial fishing and other natural resource-based industries and protection of habitat and environmental values on which those industries depend. Tidal and wind power are emerging as potential new uses in the State's coastal zone. It is prudent now to ensure that coastal resource management agencies have an understanding of these technologies and how their development may affect coastal resources. That understanding will help guide refinement, if necessary, of applicable coastal law and policy and thus help advance state goals related to both renewable energy and traditional industries.

d) General Workplan:

FY06 Organize workshops, in consultation with the Office of Energy Independence and Security Review and involving industry representatives with pertinent technical expertise as appropriate, to acquaint DEP, DMR and other key state agency personnel with information regarding tidal and wind power technologies potentially suitable for operation in the State's coastal waters. State agencies' participation in comparable workshops or information sessions organized by industry or others may provide opportunities to address this aspect of the strategy.

FY07 Undertake a review and assessment, led by DEP in consultation with SPO, the Office of Energy Independence and Security, and the Departments of Marine Resources and Conservation and other appropriate agencies, of the efficacy of the Site Location of Development Act, Natural Resources Protection Act, state water quality standards and other enforceable policies and pertinent state energy policies to address foreseeable issues raised by foreseeable alternative energy development (e.g., wind and tidal power) in coastal waters and adjacent OCS areas.

e) Summary of Costs:

FY06	$11,000	for workshop(s)
FY07	$0	
FY08:	$0	
FY09:	$0	
FY10:	$0	

f) Likelihood of Success:

Moderate – The likelihood of success for this program change is unknown at this time pending the analysis of results from the workshops.

NOTE: The decision of whether to pursue the above strategy is pending further discussions with Maine DEP.

Aquaculture: Assessment

Section 309 Programmatic Objectives:

I. *Enhance existing procedures and long range planning processes for considering the siting of public and private marine aquaculture facilities in the coastal zone.*

II. *Improve program policies and standards which affect aquaculture activities and uses so as to facilitate siting while ensuring the protection of coastal resources and waters.*

Resource Characterization

1. Briefly describe the state's aquaculture activities (e.g., existing procedures, plans, program policies and standards).

Aquaculture is the controlled cultivation of aquatic plants, algae, and animals during all or part of their life cycle, for either commercial purposes or the enhancement of wild stocks. During the past three decades, Maine's marine aquaculture industry has grown from a handful of experimental farms into an industry with an estimated production value of $40-80 million, depending on the year and the method of data collection.

During the past two decades, aquaculture in Maine has been dominated by Atlantic salmon, American oysters, and blue mussels. New species of shellfish, seaweeds and finfish hold promise for the future.

The finfish (Atlantic salmon) sector of the industry is centered in Washington County, in Cobscook and Machias Bays, although there are also finfish aquaculture operations as far west as Swans Island in western Hancock County. In 2000, salmon aquaculture produced the second highest annual sales revenue ($75-80 million) of all Maine fisheries, second only to lobster. However, by 2004, the total value (sales revenue) of salmon aquaculture in Maine had declined approximately 50% to about $40 million due to a combination of economic, political and biological factors. Overall, Maine's finfish sector is a very small part of a much larger, highly consolidated global industry representing less than 1% of salmon produced worldwide and less than 5% of the U.S. market.

The shellfish sector (primarily American oysters and blue mussels) is centered in the Damariscotta River estuary, where much of the oyster production takes place, although there are mussel and oyster aquaculture facilities in various locations along the mid-coast area. The value of the shellfish aquaculture industry is estimated between $3 million and $5 million. Shellfish aquaculture, particularly the oyster industry, continues to develop on a small-scale, owner-operator basis. Shellfish growers see enough growth in demand to support their small-scale operations for the next 10-20 years, with many planning expansion of their production. Whereas in the past, the Department of Marine Resources (DMR) sometimes had a significant backlog of shellfish lease

applications, currently applications are processed as they arrive, and there is a continued interest by new entrants. In 2004 the DMR received 16 new applications for standard and experimental leases, and 12 new applications in 2005.

As seafood demand in the US and abroad exceeds the sustained capacity of wild fisheries, aquaculture will become an increasingly important part of Maine's natural resource economy. Based on the research and small-scale commercial ventures currently in progress, DMR anticipates increased interest in cultivating other species, such as halibut, cod, haddock and urchins and will encourage innovative aquaculture projects that will be compatible with Maine's environment, will provide a more diverse economic aquaculture base, and will provide a local source of healthful food products.

With its excellent water quality, strong base of workers experienced in marine industries, and proximity to significant markets, Maine is an ideal location for some types of aquaculture provided that it is practiced in a sustainable fashion and that conflicts between users are addressed.

2. Briefly describe environmental concerns (e.g., water quality, protected areas, impacts on native stock and shell fish resources). Also, describe any use conflicts (e.g., navigational, aesthetic, incompatible uses, public access, recreation, and future threats (e.g., shoreline defense works, introduced species).

Marine aquaculture is an issue of public controversy. Impacts on the environment, wildlife, traditional wild fisheries, recreation and tourism are among concerns often expressed. A variety of factors contribute to this controversy and affect the public's view and perception of aquaculture including increasing use of coastal waters by an increasing population, a demographic shift away from a working waterfront, and wide media coverage of specific aquaculture proposals and issues. The industry itself continues to face challenges in response to new regulatory requirements designed to address many of these concerns.

Environmental concerns

Water quality and habitat impacts have been a concern in Maine since the 1980s. Impacts range from those caused by feces and waste feed, use of antifoulants, antibiotics and pesticides, to eutrophication and smothering of benthic habitats. The Maine Department of Marine Resources (DMR) and others have investigated those impacts for over 20 years and found that while finfish culture has the greatest potential to impact water and habitat; shellfish and seaweed culture can also cause harm. However, studies by the Department document that impacts are very localized and are reversible.

All aquaculture in Maine, regardless of size or species reared, is highly regulated and inspected to ensure that impacts are not detrimental to the overall health of our coastal waters and habitats. Industry changes have also reduced impacts. For example, today, vaccines and husbandry techniques (e.g. fallowing and stocking schedules) control disease and parasite populations where once antibiotics and pesticides were the primary line of defense. Feed formulations and practices have significantly reduced the amount of waste released to the environment. In sum, impact on water quality and habitats from today's salmon farm is a fraction of what it was 15 years ago. Water quality and benthic impacts have been addressed by federal and state permits. While the DMR is continuing to participate in implementing the provisions of those permits and will always look for

improved methods of farming and monitoring, these are no longer the most pressing research and regulatory issues we face.

Salmon finfish aquaculture has been identified as a moderate threat to restoring wild salmon to Maine's historic salmon rivers. Interbreeding of escaped and wild salmon is believed to threaten the genetic integrity of the few remaining wild salmon resulting in a reduction of their fitness and survival. The industry follows a "belt and suspenders" approach involving regulatory measures to ensure minimal exposure of wild fish by farmed fish. Strict cage containment measures and on site audits are designed to prevent escapes. If an escape should occur, fish are marked so that they may be removed if they enter wild salmon rivers. And lastly, all Maine fish are required to be of North American strain so that if interbreeding does occur, genetic drift is minimized to represent this region's makeup.

Disease, particularly infectious salmon anemia (ISA), has recently presented significant problems for the salmon industry. There it has caused significant economic loss prompting new husbandry and processing biosecurity practices. While there has not been evidence of transmission of disease from farmed to wild stocks in Maine (ISA has been in Maine for over 100 years), it is important to control and minimize disease at farm sites to prevent the build up of disease and thus reduce the risk (probability) of exposure to wild fish. Less is known regarding disease in the shellfish industry and even less in marine plants. As the shellfish sector expands and seaweed cultivation takes hold, assessing disease potential and developing management techniques to minimize disease, especially the spread of disease, is a priority.

Any work in the marine environment has the potential to conflict with wildlife resources. More research is needed to better understand what the specific impacts of different types of aquaculture projects are on wildlife resources such as marine mammals and seabirds, and to identify strategies to enhance habitat value in the vicinity of aquaculture operations. As new species are tested and stocked in Maine waters, great care must be taken to not introduce invasive species that negatively impact our native marine communities.

In other parts of the world, aquaculture has become an integral part of sustainable coastal ecosystem-based management providing solutions to problems such as pollution caused by non-aquaculture activities. Maine is behind in this area primarily because of public misperceptions and a natural resistance to change. Yet, done correctly, aquaculture can relieve land-based habitat loss from energy, water and land intensive terrestrial agriculture. Maine has an opportunity to lead the way in the U.S.

Human Use Conflicts

The early and volatile conflicts between traditional wild fisheries and aquaculture have diminished. Today's conflicts reflect the reality of changing social and economic conditions along the Maine coast. Probably no other factors have contributed more to this change than the increase in second home development and in the number of people retiring to Maine. This sector is a powerful economic force in coastal communities as a driver of construction activity. Many retirees and vacationers choose Maine because of its rugged beauty and recreational opportunities. Their interests sometimes conflict with the visible and sometimes noisy and odiferous harvesting and commercial uses of coastal resources. This conflict between the growing sector of new residents of coastal communities whose livelihoods are not be tied to the coastal economy and those residents

and business owners whose livelihoods depend on commercial use of Maine's marine resources has become the focus of lawsuits and legislation.

Shellfish aquaculture is less likely to be as controversial as finfish aquaculture in part because the small scale of these operations allow them to fit more easily with other coastal uses and they tend to clear the water rather than add waste to it. However, even shellfish leases are not immune from public opposition as when private coastal property owners sue over an "obstructed" view.

In 2003, an Aquaculture Task Force was convened by Legislative directive to address human use conflicts. One recommendation from that Task Force was to explore a range of potential approaches to nearshore management in Maine. These included: identification of places in the water that are appropriate for certain uses; citizen stewardship efforts; research to better understand how bays work and application of that research to management decisions; and resolution of user conflicts. Known as the "Bay Management" project, the Maine Coastal Program and Department of Marine Resources have devoted nearly two years defining the problems and exploring potential solutions. This project is scheduled to conclude in January 2007 with recommendations to the Legislature.

Management Characterization

1. Identify significant changes in the state's ability to address the planning for and siting of aquaculture facilities since the last Assessment (new regulations, guidance, manuals, etc.). Provide the following information for each change:

- Characterize the scope of the change
- Describe recent trends
- Identify impediments to addressing the change

Identify Successes

- *Best Management Practices for Noise and Light*: In 2005, the DMR proposed rules to implement noise, light, and visual impact standards. Those rules were ultimately adopted, and are in place today. The rules include a standard of "reasonable measures will be taken to mitigate" the impacts. There is no standard for how much measurable light or noise may be present at the boundary of the site, however there is a per fixture wattage limit for lighting and other specific directives as to how lighting and noise-producing equipment is to be installed and/or mitigated. This project received CZMA Section 309 funding.

- *Review of the Finfish Aquaculture Monitoring Program (FAMP)*: During the recent assessment period, DMR utilized 309 funds to undertake a review of the Finfish Aquaculture Monitoring Program or FAMP. The FAMP review validated DMR's monitoring program, and suggested additional techniques to investigate. Shortly following that review, the monitoring program was incorporated into the MEPDES (Maine Pollutant Discharge Elimination System) permit, and was not subject to further development. Some of the techniques that the FAMP review suggested investigating were incorporated, without any further investigation, into the MEPDES permit. Some of these did not work well because they were not fully explored and developed prior to implementation. It is important to revisit both the FAMP review suggestions and the MEPDES permit experience as the permit comes up for revision.

- *Aquaculture Task Force*: In 2003, the Maine State Legislature established an Aquaculture Task Force and charged it with specifically reviewing:
  - Bay management;
  - Current and predicted characteristics of the industry, including economic impact;
  - Impacts of aquaculture on tourism, recreation, conserved lands, fisheries, ecology and options for mitigation of impacts;
  - Leasing impacts;
  - Role of municipalities in leasing;
  - Current laws; and
  - Submerged lands policy and rights of riparian landowners.

  The Department of Marine Resources and the Maine Coastal Program provided staffing and funding to the Aquaculture Task Force. Recognizing the limitations of the current leasing process and the need for greater community involvement, the Task Force set out to improve the planning and regulatory process and support the growth of the industry in an economically and ecologically sustainable way. After six months of intensive work, the Task Force issued its findings in January 2004.

  A summary of Task Force recommendations implemented to date follow:

  <u>Statutory/Regulatory</u>

  Statutory

  - Adopted the Task Force vision and value statements to help guide the State's future relationship with the aquaculture industry.
  - Clarified that municipalities do not have the authority to determine the location of moorings associated with aquaculture lease sites, or to charge mooring fees within the boundaries of aquaculture leases.
  - Clarified that a community actively engaged in a shellfish co-management program with the state of Maine has the right to lease areas in the intertidal zone to the extreme low water mark within the municipality to individuals for the purpose of private shellfish aquaculture.
  - Omitted the charge to the Department to "quantify" the impact of noise at the boundaries of the lease site, and added language regarding mitigation measures.
  - Required the Department to include the number and density of all aquaculture leases in an area into the decision criteria used to evaluate proposed leases.
  - Move activities related to development of the aquaculture industry from DMR to the Department of Economic and Community Development (DECD) and promotion to the Department of Agriculture. *(Note: The statute directing "Specific Department Activities" (§6052) was amended to except aquaculture from the Department's marketing function, however, this responsibility was not statutorily assigned to another agency.)*
  - Increased the maximum lease acreage from 250 to 500 acres. (Note: Maximum lease acreage was increased to 500 acres, but no more than 300 acres may be in use at any time; the remaining 200 acres must be fallowed).
  - Eliminated the established time period of April 1st to Nov. 15th within which the Department may conduct its site visit.

- Included "conserved lands" owned by federal, state, or municipal governments or protected through fee ownership in the decision criteria. The Commissioner must consider the impact of the proposed lease on public use and enjoyment of conserved lands within 1,000 feet.
- Directed the State Planning Office (SPO) to maintain a list of conservation lands as defined above and direct DMR to request this information from SPO prior to the pre-application scoping session.

Regulatory
Amended the regulations to:

- Require that the pre-application meeting currently held at the DMR lab in Boothbay Harbor between the applicant and the Department is instead held in the municipality where the lease is proposed, and includes the harbormaster and/or a municipal official.
- Require that a pre-application scoping session is held.
- Allow a municipality to recommend that the Commissioner establish certain conditions on a proposed lease, and require the Department to consider any conditions recommended, and provide a written explanation to the municipality if the condition is not imposed.
- Provide mitigation measures for noise and light.
- Provide limitations on height, size, mass and color of buildings and equipment.
- Assess a reasonable fee for renewal and transfer applications (following the completion of the comprehensive fee review that DMR has undertaken.)
- Establish a schedule of penalties for lease violations. *(Note: All lease violations were statutorily changed to civil violations).*
- Allow an applicant to define the start date of their lease as any date within 12 month of approval of the experimental lease application.
- Provide standards for assessing the impact of a proposed aquaculture facility on the public use and enjoyment of conserved lands.

Administrative
The Task Force recommended that the DMR take the following actions, which did not require a statutory or regulatory change:

- Identify mediation resources, make a list available to all parties involved in lease-related conflicts, and update the list annually, so that conflict resolution may be an option for interested parties to pursue, outside the existing lease process.
- Assess the results of the new enforcement initiative.
- Conduct site visits during times appropriate to characterize conflicting uses or the ecological significance of the site.

Information
The Task Force identified a need for improved information sharing. DMR should:

- Provide more informal opportunities for information exchange between the applicant, the Department, and the public, such as a pre-application scoping session.
- Develop a set of information posters to provide information on the lease process, particularly the decision criteria, to be used at the lease hearings and scoping sessions.

- Use the pre-application scoping session as an opportunity for informal education about the leasing process.
- Explain the opportunity for intervener status to the municipality at the pre-application meeting in the municipality.
- Encourage recreational/hobby aquaculture as a way to engage and educate the public about aquaculture.

Maine Pollutant Discharge Elimination System (MEPDES) permits

Separate from the Task Force work, the Maine Department of Environmental Protection, in Cooperation with DMR, has implemented a new pollution discharge permit. It has become clear during that process that despite some technical problems with the permit, overall implementation seems to be on track.

Atlantic Salmon listing and recovery plan

Following listing of Atlantic Salmon as a Federal Endangered species, the DMR reviewed and commented on the recovery plan. While the plan ignores many of the recent improvements in Maine aquaculture operations that address recovery actions outlined in the plan, the Maine Department of Marine Resources Aquaculture Policy Coordinator is working with the recovery team to ensure that improvements are acknowledged and that outstanding issues are addressed as quickly as possible.

Encouraging Appropriate Aquaculture

Maine needs to be creative about using management techniques to encourage innovative new uses and evaluation methods, including cost/benefit analyses of various proposed new species or culture methods.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

Fish Health

- Some regulations that have worked well in the past for existing aquaculture species are not working well for new species or for new practices with the currently cultured species, and are stifling innovation.
- There is a need to understand the disease issues that will affect efforts to use new methods, or to culture new species in a given area.

Environmental Health

- There is a need to review the Finfish Aquaculture Waste Discharge Permit for scientific validity and regulatory efficacy.
- The environmental impacts of shellfish aquaculture need to be assessed.
- Maine lacks sufficient information to assess the threats posed by aquaculture to seabirds.

- In Maine, aquaculture is viewed as an environmental problem, despite the fact that in some regions of the world, it has served to mitigate environmental problems.
- There is a need to assess the opportunities for polyculture in Maine.

Education and Public Outreach

- There is a need to provide the public with more information about aquaculture.

2. What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

Last Assessment	This Assessment
__x__ High	_____ High
_____ Medium	__x__ Medium
_____ Low	_____ Low

During the previous assessment period, tensions were elevated among stakeholders concerning the siting and impacts of aquaculture facilities. During this period, a great deal of Maine Coastal Program efforts and resources were devoted to dealing with these issues. Due to the success of these efforts in addressing these problems, MCP currently views aquaculture as a medium priority issue.

Aquaculture: Strategy

Strategies to be funded by CZMA Section 309 monies

Environmental Health.

Protecting environmental health has been a consistent goal of Maine's aquaculture program and a statutory requirement. In the 1980s, environmental monitoring became mandatory for all finfish sites and evolved into the State's Finfish Aquaculture Monitoring Program (FAMP). When Maine's Department of Environmental Protection (DEP) accepted delegated status for Clean Water Act authority from the US Environmental Protection Agency, the FAMP became the basis for much of the new General Permit for Atlantic Salmon Aquaculture. That permit is now the template for all finfish aquaculture in Maine.

The DMR has continually attempted to anticipate environmental issues and manage impacts before they become problems. For example, in the past several years, DMR has completed two whole bay carrying capacity studies for aquaculture and evaluated interactions between wildlife (seals) and salmon farms. We also see opportunities for aquaculture to contribute to solving larger, non-aquaculture related environmental problems. For the upcoming 309 cycle, we intend to pursue some of these while improving existing programs.

Project descriptions and budgets:

- Review the Finfish Aquaculture Waste Discharge Permit for Scientific Validity and Regulatory Efficacy and Recommend Revisions as Appropriate

Some permit standards and monitoring procedures were prematurely put in place contrary to the recommendation of the FAMP review. Others were based on untested theory. Throughout the permit development process, assurances were made by DEP staff that opportunities would exist to revisit the language and standards to ensure that the permit is effective, fair, and reasonable. Permits have been in place for almost 3 years and not surprisingly, problems have emerged. A review of the permit within the next several years is appropriate.

a) *Program Change:*
This strategy may lead to revisions to regulations or guidelines concerning finfish aquaculture waste discharge. The National Environmental Pollution Discharge Elimination System permits would be modified to reflect new knowledge.

b) *Anticipated Effect of the Program Change:*
The review is intended to improve the NEPDES permitting process to better protect the marine environment while promoting aquaculture opportunities here in Maine. Permit requirements that are meaningless, or worse, misleading, would be changed or eliminated. Similarly, any provisions that need to be added could be. This would lead to a permit that is easier to

implement, interpret, comply with, and enforce, increasing the efficiency of both the growers' and regulators' involvement in regulatory matters.

c) Describe why this activity is the most appropriate means to address this issue:
The NEDPES permit is fixed and in place. There is no other mechanism to correct its inefficiencies.

d) General Workplan

FY08 staff will conduct meetings and perform data analysis to assess effectiveness of the permit

e) Summary of Costs:

FY08: $5000 for staff time, travel and meetings

f) Likelihood of Success:
The DEP and DMR will support appropriate revisions to the permit. Stakeholders will comment, and there will likely be extensive discussion about some of the proposed changes, but the science is clear enough about many of the issues that it is very likely that a better permit will result. Once the permit is in place, it takes a significant effort to revise, and so future implementation should not be a problem.

❖ Assess Environmental Impacts of Shellfish Aquaculture

As finfish aquaculture has declined, shellfish aquaculture has grown, especially in the midcoast region. While still early, concerns over impacts from shellfish farms are anticipated. DMR is looking at the nature and extent of benthic impacts associated with mussel rafts by evaluating video transects and benthic community structure. Other issues, such as, shading effects on eelgrass and oligotrophication are in need of assessment. Cost to complete an initial shellfish impact assessment is estimated as $20,000 over several years. Most of the work will be covered by existing state salaries however funds are needed to cover contractual laboratory analyses including chemistry and invertebrate taxonomy.

a) Program Change:
Results of this work will lead to improvements in siting guidelines and Best Management Practices, which would be used in the leasing process. It will also guide us in our assessment of whether a long term monitoring program is needed.

b) Anticipated Effect of the Program Change:
This program change should result in better protection of the marine environment from individual and cumulative impacts posed by shellfish aquaculture.

c) Describe why this activity is the most appropriate means to address this issue:
There is currently not enough data about the impacts of mussel raft aquaculture in Maine to make reasoned revisions to the leasing guidelines. Direct observation of impacts is the most effective means to generate data that will lead to reasoned regulatory changes.

d) General Workplan:

FY07	Sample collection and analysis from test sites
FY08	Sample collection and analysis from appropriate number of sites, based on test results and regulation change development
FY09	Follow up sampling as needed and implementation of regulatory changes
FY10	Assessment of change at sites that implemented new practices and analysis of changing lease decisions

e) Summary of Costs:

FY06	$0
FY07	$5000
FY08	$5000
FY09	$5000
FY10	$5000

f) Likelihood of Success

This project has a strong foundation in the literature and is under the control of the DMR. It is very likely that we will proceed as outlined and that based on the results we will make any appropriate changes to our leasing policies and regulations. This will also assist our environmental assessment staff in projecting the likely impacts of any mussel lease application even during the sample collection period.

❖ Interactions between Aquaculture and Seabirds Colonies

The Maine Department of Inland Fisheries and Wildlife and U.S. Fish and Wildlife Service have identified many of Maine's offshore islands as critical to the restoration of a variety of seabird populations. As human water activity and access increases, encroachment on outer islands poses the risk of disturbance to nesting seabird colonies. Aquaculture is one these human water activities, others are ecotourism, recreational and commercial fishing, kayaking, and camping. In addition, aquaculture poses its own set of unique risks that include entanglement and congregation of predatory gulls. Absent quantitative information, DMR and wildlife agency staff have been discussing the need to assess some of these threats. We propose a two part project with a third party contractor. Part One is a survey of Maine's aquaculture industry (finfish and shellfish) accomplished through confidential interviews and site visits to gather information on the number of seabird entanglements by species and cause. Part Two is a more comprehensive assessment of disturbance to specific nesting colonies. This primarily field-based assessment will consider human disturbance beyond aquaculture.

a) Program Change:

Results of this work will generate guidelines designed to minimize the impacts of aquaculture and other related human disturbances on seabird colonies and will inform and clarify the leasing decision criteria that currently exist in statute.

b) Anticipated Effect of the Program Change:

With empirical information, wildlife managers should be able to prioritize risks to seabird restoration and target management programs accordingly. Lease applicants will also be able to

prioritize their proposed locations according to potential impacts and lease operators will be able to employ practices to minimize risk. Regulatory agencies will have data on which to base reasonable decisions, instead of relying on conflicting opinions and testimony not based on specific data.

c) *Describe why this activity is the most appropriate means to address this issue:*
Without collecting and analyzing data about potential impacts of human activity near seabird islands, we will not have reasonable information on which to base decisions. DMR is a decision maker regarding leases in Maine, and is an appropriate party to be coordinating a study.

d) *General Workplan:*

FY06	
FY07	Convene advisory committee, contract for a confidential survey, design study to measure impacts of human activity, especially aquaculture, on nesting seabirds.
FY08	Collect data year 1
FY09	Collect data year 2, analyze data and suggest BMPs and regulatory changes
FY10	Evaluate effectiveness of BMPs and regulatory changes on-site

e) *Summary of Costs:*

FY06	
FY07	$70,000
FY08	$50,000
FY09	$55,000
FY10	$50,000

f) *Likelihood of Success:*
This is a critical study and would inform an extremely contentious siting issue. It is unlikely that everyone will be happy with the outcome, but these efforts will result in a strong and reasonable basis for siting and operations guidelines. This project is very likely to lead to that outcome, and will be just as important for encouraging appropriate siting as for preventing inappropriate siting.

❖ Application of aquaculture to solving environmental problems

Around the world, aquaculture is used to solve environmental problems. Yet here in Maine, the general public perception that aquaculture is a problem in and of itself blinds our ability to see the potential overall benefits aquaculture has to offer. For example, in Sweden, mussel aquaculture was seen as the most cost effective means of mitigating nitrogen discharges from a small coastal town thus eliminating the need for expensive tertiary denitrification treatment plants. Mussels are harvested year round, processed and safely converted to poultry feed. In addition to solving an eutrophication threat, it also helps reduce demand for protein derived from wild forage fish. In Southeast Asia, limited aquaculture is allowed in marine reserves as an affordable means to protect wild species from poachers. The mere presence of aquaculturists acts as a deterrent to potential offenders.

In Maine, aquaculture can play a significant role in solving many of our environmental problems. Some applications include the following:

- enhancing physical habitat structure for wild fish communities;
- restoration of wild stocks (e.g. Atlantic salmon);
- reducing wild harvest practices that are destructive to sensitive habitat;
- managing human disturbance near remote offshore seabird islands; and
- mitigating nutrient loading in sensitive estuaries.

We propose to convene a day long workshop of professional stakeholders responsible for natural resource management and regulation from a variety of agencies and NGOs. Projected cost is estimated at $15,000 for preparation of materials and to cover travel for invited speakers.

a) Program Change:
Programmatic outcomes include identification and removal of regulatory disincentives to sound aquaculture practices as well as identification of potential cooperative efforts between officials and aquaculturists that would proactively begin to solve on-the-ground problems.

b) Anticipated Effect of the Program Change:
The workshop will identify problems to which aquaculture can be applied, impediments to the use of aquaculture for problem solving, and form partnerships for several pilot projects.

c) Describe why this activity is the most appropriate means to address this issue:
DMR hears from aquaculturists that they have a strong interest in these activities, but that there are disincentives and no obvious ways to partner with the organizations trying to solve the problems. Identifying the ways we can eliminate disincentives, create incentives, and identifying potential partners is the first step. No one agency or person can do that alone, and an event to foster information sharing and collaboration is needed.

d) General Workplan:

FY08	Identify venue, make appropriate deposits and reservations, identify attendees and begin advertising process
FY09	Hold conference, follow up with attendees about outcomes, and make results publicly available. Initiate any regulatory changes that are necessary to remove disincentives.
FY10	Assess what partnerships and projects result, report on outcomes, and publicize the potential for more efforts.

e) Summary of Costs:

FY06	$0
FY07	$0
FY08	$5000
FY09	$8000
FY10	$2000

f) Likelihood of Success:
Based on the level of interest already present in Maine, it is very likely that we will have a robust, meaningful conference with appropriate speakers and attendees. Getting the necessary regulatory changes in place and encouraging partnerships will require a sustained follow-up effort, but should be very doable.

Strategies for which other (non-309) funds will be sought

Environmental Health

Advancing Polyculture in Maine. The Governors Task Force on Aquaculture recommended that Maine promote polyculture for its potential environmental and economic benefits. In New Brunswick, integrated multi-trophic aquaculture (IMTA), using salmon, mussels and kelp, has been demonstrated as operationally feasible. Several legal and social impediments have deterred aquaculturists from attempting polyculture. Acquiring new or modifying existing leases can be expensive and time consuming, public opposition limits availability of sites, and markets for some of the products are either not well developed or aquaculture cannot compete with wild caught products. With urchin and sea cucumber populations at a low, these species may be candidates for complementary species in a finfish operation. The project will provide seed funds to develop a full polyculture proposal with commercial partners. Estimated cost is $15,000 to assess polyculture opportunities in Maine, offset costs of lease acquisition or amendment and prepare a workplan/business plan for one or two polyculture pilot projects. Programmatic value lies in identification of institutional and business impediment to the advancement of polyculture. Preferred implementation in FY09 and 10.

Fish Health

In the last few years DMR has begun to see increased interest in initiating aquaculture for other species, such as halibut, cod, and urchins. Maine is by no means unique in this respect, however some of the challenges of supporting and regulating innovative aquaculture are specific to each region. In the case of regulations regarding disease testing and movement of aquaculture products, each region has endemic diseases, naturalized diseases, and exotic diseases of concern that may be quite different from one region or local area to another. The regulations that have worked well in the past for existing aquaculture species, are not working well for new species or for new practices with the currently cultured species, and are stifling innovation. At the same time, an effort to understand disease issues that will affect efforts to use new methods, or to culture new species in a given area, would be of help to the aquaculturist.

It is therefore a priority for the DMR to:

- Conduct, in cooperation with the University of Maine and other partners, studies of pathogen occurrence in wild and cultured populations. Specific projects contemplated include a study of potential disease reservoirs in wild finfishes and a study of pathogen occurrence in wild and cultured shellfish along the Maine coast.

- Convene groups of stakeholders and experts to describe what is already known about disease issues related to alternate species and new aquacultural practices. The highest priority will be given to species that are already being cultured, or are likely to be cultured in the next two years.

- Based on the best information available, rewrite the DMR Chapter 24 regulations regarding fish and shellfish health and movement.

- Coordinate with other states and provinces, as appropriate, to harmonize health and movement regulations to provide a predictable regulatory environment for aquaculturists, and ensure consistent protection for Maine waters and ecosystems.

Project descriptions:

❖ Disease reservoirs in wild finfishes

Opportunistically sample finfishes that are suspected to be reservoirs for disease and/or sentinel species by obtaining samples from governmental and private fishing trips. Sample processing will be done by a combination of contracted, DMR, and University personnel, and will look for a variety of bacterial and viral pathogens. Results are expected to provide insights into challenges, development strategies, and appropriate management practices for established and emerging aquaculture species, and well as for protected species. Estimated cost for transportation and processing of samples is approximately $50,000 to $75,000 per year depending on research design and sample availability. It would be ideal to repeat this study for five years, however even doing it for one year would be of enormous benefit. It is expected that there may be collaborative work provided by NMFS and the University of Maine. Preferred implementation: FY07 and early 08

❖ Pathogen occurrence in wild and cultured shellfish

Intentionally sample oysters, mussels, and possibly soft-shell clams from a wide geographic distribution along the Maine coast. Both cultured and wild shellfish will be sampled. Sample processing will look for a wide variety of potential pathogens. Cooperation from the University of Maine and from aquaculturists is anticipated. Results would inform the development of movement and health regulations and would allow DMR to be proactive about creating a stable regulatory climate in which to encourage innovation. Collection and sample processing costs would be between $50,000 and $75,000 for one year. It is possible that follow-up sampling will be desirable, but that need will not be clear until after the initial results are returned. Project details are already described in a document by S.R.R. Haskell et al of the University of Maine. Preferred implementation: FY07 and 08

❖ Convene stakeholders and design regulations regarding health practices for emerging cultured species.

Over the course of six to eight months, a contractor or DMR staff person would, under the direction of DMR, outline the priority issues, convene meetings of stakeholders to gather input, create an organized repository for pertinent information, and make recommendations about how DMR can use its policy and rulemaking authorities to encourage innovative aquaculture projects, while also safeguarding the natural environment and existing aquaculture species. The expected outcome would be recommended marine organism health rule language, as well as recommended

policy or extension initiatives. The most cost-effective way to achieve this would be to hire a six month project employee. The budget for the project employee plus meeting rooms, minimal travel and other organizational needs is approximately $40,000. Preferred implementation: FY07

- ❖ Coordinate with other states and provinces regarding fish and shellfish health regulations.

This project is a natural fit with the description in the paragraph above, and can be accomplished by the same project employee. Preferred implementation: FY07

Education and Public Outreach

Because of the many conflicting, and sometimes inaccurate, news accounts about aquaculture in Maine, many people who are interested in knowing whether the food they are about to buy is safe, healthful, and responsibly raised are not sure where to turn for information. The Maine State Toxicologist's office has the responsibility to issue consumption advisories, but beyond that function there is some important information for DMR to convey regarding environmental and economic impacts of aquaculture, and the regulatory system to which aquaculturists must adhere. Ultimately, the public's understanding of, and attitude toward, aquaculture has a dramatic impact on DMR's ability to work with the public to appropriately site and regulate aquaculture facilities.

- ❖ Create and distribute a one-page brochure about aquaculture in Maine, designed for the general public's information.

Possible distribution venues are seafood counters, shows, and public meetings, and the intended audiences are seafood consumers and members of the public that have only a general knowledge. The DEP has also expressed an interest in working on this project. DMR has a rough outline of topics to be addressed, but needs assistance with presentation for a general audience, graphic design, and printing. Estimated cost: $800 for design, printing and distribution of brochure.

Fiscal and Technical Needs

Fiscal Needs

Since 2001, the Maine economy has recovered from the national recession and has expanded beyond 2001 levels. State government has responded to several challenges during that time. Like many states, Maine faced a $1 billion structural gap in the 2004-2005 biennium. This has been reduced by a succession of fiscally conservative budgets. Efforts to narrow this gap and to fund a 2004 citizen referendum increasing state education spending have squeezed other areas of state government.

The Maine Economy

The Maine economy experienced moderate, steady growth from 2002 to 2005. Maine was one of the first states to recover all of the jobs lost during the recession. Between 2002 and 2005, resident employment grew by 3.4% to 677,000. In 2005, Maine's resident employment growth was the second highest in New England. However, the number of people on payrolls of Maine businesses was unchanged in 2005. The difference in the two measures is likely due to the growing number of people living in Maine and commuting or telecommuting to jobs in other states, more people starting their own businesses, and more businesses hiring contractors rather than full-time employees.

Unemployment in Maine was lower than the nation throughout the recession and economic recovery. In 2005, Maine's unemployment rate was 4.7%, below the national rate of 5.1%. Unemployment has remained low because job losses in traditional industries such as manufacturing have been surpassed by gains in other sectors. Total personal income in Maine grew 12.6% between 2002 and 2005, above the national rate of 12.3%.

The Maine economy is poised to grow over the next few years. Forecasters expect payroll employment to increase 0.5% to 1.2% annually (approx. 3,000 to 7,500 jobs per year), while resident employment will increase 0.9% to 1.8% (approx. 6,000 to 12,000). Education and health services, professional and business services, and leisure and hospitality will continue to be Maine's fastest growing industries. Employment opportunities in these industries will be favorable and their contribution to the Gross State Product will continue to grow. Output in manufacturing will also continue to increase, but employment will not. Likewise, financial activities will expand somewhat without hiring many new employees.

Maine's economy is increasingly influenced by events outside our borders. Fortunately, the near future looks positive for the nation as a whole and most forecasters are predicting solid growth. Businesses are reporting record profits, interest rates are still relatively low, and employment is high. However, growth may be tempered by high energy prices, further interest rates hikes, and a cooling housing market.

New England looks poised to grow with the nation, but will feel the weakening housing market and high energy costs more acutely than other regions. Consumer spending driven by rising home equity is not likely to continue, but strong job growth in professional and business services and

financial activities should offset the weaker real estate market. Overall, Maine's proximity to the wealth center around Boston, New York, and Washington DC will continue to be a source of economic opportunity.

The Maine State Budget

In recent years, over three-fourths of Maine state government appropriations have gone to education, health, and human services programs. In June 2004, Maine citizens approved a referendum requiring the State to increase funding for local schools by over $300 million in four years. In the 2005, the State raised the cigarette tax from $1 to $2 per pack in part to meet this new obligation.

Bonds have been used conservatively in recent years, despite the state's sound bond rating. In February 2005, Governor Baldacci proposed a $197 million bond package for transportation, environment, and workforce investments. The legislature reduced that package to $83 million, of which $74 million was approved by voters in November. In early 2006, the Maine Department of Transportation announced that it would have to defer $160 million in transportation projects. The State appropriated $15 million to cover some projects but, thus far, proposals for bonding have been unsuccessful.

At the federal level there have been very significant reductions in the amount of money being made available for clean water infrastructure in the last four years, where Congressional appropriations are now less than half the amount they were in 2004 for the revolving loan funds. These reductions have translated to a loss of $5 million dollars in available federal funds for the state of Maine in 2006. These federal dollars require a 20% match, where every state dollar matches five federal dollars.

The Department of Environmental Protection and the Drinking Water Program at the Department of Health and Human Services both continue to report significant infrastructure needs, with for example approximately $290 million in wastewater infrastructure needing to be replaced in the next five years. The loss of federal matching dollars and a political stalemate over the authorization of bonds has significantly affected the operations of these two programs in recent years.

The rising costs of essential education and health services, low bond utilization, and efforts to close the state's structural gap have left environmental programs significantly impacted. It appears unlikely that this situation will change significantly in the near future, although the 2006 elections may alter the political environment in Augusta.

Efforts to Secure Alternative Funding

Coastal Estuarine Land Conservation Program (CELCP). With NOAA financial assistance, a State CELCP Plan was prepared to guide the state's process for identifying priority estuarine conservation projects for nomination to NOAA in a potential, future competitive grants program. In the meantime, the Maine Coastal Program, the designated state lead agency, has actively supported three CELCP projects that have received earmark appropriations from Congress, plus two project nominations for FY 07 consideration. Future CELCP projects will be evaluated and nominated for federal funding through the process established by this plan.

Environmental Protection Agency. Since 2001, the Maine Coastal Program has been the recipient of approximately $250,000 per year from USEPA to develop and implement the Maine Healthy Beaches Program (MHB). MHB now involves 42 beaches and 18 municipalities and state parks as participants. The Coastal Program took the lead on applying for these funds when they became available to states under the federal Beaches Act, when no other state agency partners were willing to take on program development for a new swimming beach monitoring program. This is an example of MCP working to secure funds to fill a program need. To compensate for lack of adequate technical staff, MCP contracts annually with the University of Maine Cooperative Extension (Sea Grant Extension) to coordinate the MHB program.

Land for Maine's Future Program (LMF). This state program was created in 1987 when Maine voters approved a $35 million bond to acquire lands for conservation, recreation, and farmland protection of statewide significance. The LMF Program received additional support in the fall of 1999 when voters approved a $50 million bond to acquire lands of statewide, regional, and local significance. Then again in the fall of 2005, Maine voters approved another $12 million for the LMF program, including a $2 million set aside to preserve working waterfront access properties. The fund is managed by an 11-member Board, and the Program is coordinated by the State Planning Office. Two of the Board's high priority areas for acquisition include undeveloped coastal lands and land that will provide water access for boating and fishing. The LMF program provides a significant boost to increasing public access to the coast for a wide range of activities. Funding comes from a bond, which will be retired using State general fund revenues.

Working Waterfront Access Pilot Program. Passage of the $12 million LMF bond in November 2005 established a unique working waterfront protection program, funded by a $2 million set-aside for projects that protect strategically significant working waterfront properties. Financial grants up to 50% of the acquisition costs for the property will be available to private businesses, cooperatives, municipalities, organizations qualified to hold conservation easements under Maine law, or other qualified organizations for projects that will provide for permanent access use by commercial fisheries businesses. The Department of Marine Resources will administer the pilot program in conjunction with the Land for Maine's Future Board. The State Planning Office and Maine Department of Transportation will provide assistance. To aid in the development of the program the Commissioner of DMR will organize a Review Panel to advise on the operation of the program, including evaluating and recommending applicants for participation in the program. A call for proposals will likely occur by spring or early summer 2006, with projects being chosen late that same year.

The Maine Coast Protection Initiative. This initiative was launched in 2003 to increase the pace and quality of coastal land conservation by improving the ability of land trusts to strategically conserve high priority habitats, public access, and scenic and cultural resources in their service areas. The MCPI is a collaborative effort of the Land Trust Alliance, the Maine Coast Heritage Trust, NOAA, and SPO. It is an initiative supported by grants from NOAA and several foundations, plus the staff and program resources the sponsoring agencies contribute to the effort. In 2005, the Maine Coastal Program (MCP) and the State Planning Office (SPO) received a planning grant through MCPI aimed at updating the methodology developed more than a decade ago for inventorying scenic, cultural resources along the coast. This is a one time project grant. The MCPI is scheduled to sunset in 2008, unless new leadership and funding are found to continue the effort.

Maine Outdoor Heritage Fund (MOHF). Since 1996 the Maine Outdoor Heritage Fund has received revenue through proceeds from lottery ticket sales; grants are awarded twice a year. A seven-member board oversees the program and selects projects in four categories that promote public access to outdoor recreation as well as conservation of Maine's "special places", important fish and wildlife habitat, and natural resources law enforcement.

From fall 2002 to fall 2005, the Maine Outdoor Heritage Fund Board awarded 151 projects a total of $3,234,464.00. During this time period, coastal projects received approximately 18% of the grant funds. There are no known changes which will significantly alter or eliminate the operation of the MOHF program and its role in making available funding for projects that conserve lands and habitats for Maine's citizens and wildlife. Some of the Outdoor Heritage funds obtained by SPO include a grant to support the planning and establishment of the "Beginning with Habitat" program; and technical services and support for the identification of vernal pools to aid with local land use planning.

NOAA Coastal Services Center (CSC). In 2004 the Maine Geological Survey leveraged a $144,000 LIDAR survey of southern Maine Beaches completed by NOAA/CSC. The results of the survey were used by MGS to help evaluate coastal hazards in this region.

The Coastal Program has been successful in competing for Coastal Services Center fellowship awards, hosting two fellows since 2001 and another in 2006.

Restoration funding. The MCP in conjunction with Massachusetts and New Hampshire competed successfully for community-based habitat restoration partnership grants through NOAA/NMFS. The three-year partnership grants focus on restoration of coastal habitats and diadromous fish habitat. As of the writing of this 309 Assessment and Strategy, the partners are in the second three-year grant period and have begun preliminary discussions on submittal for a third round of grant funding. The partnership has awarded more than $1,000,000 in project funds which have been matched and leveraged at a rate much higher than the required 1:1 proportion. MCP also continues to work with the Maine Corporate Wetlands Partnership to develop non-federal funds for use as match and leverage on restoration projects. Proposed in this 309 Assessment and Strategy is a project to identify possible sources and strategies to develop state match for habitat restoration.

Shore and Harbor Management Fund. As part of its expansion on the Kennebec River, Bath Iron Works, a shipbuilding company, purchased submerged lands from the State amounting to $1.5 million. These funds were placed into an interest bearing account managed by the Submerged Lands Program at DOC, under the guidance of the Submerged Lands Program Advisory Board, composed of private sector, municipal, and state officials. The Advisory Board elected to disperse capital and interest from this fund through existing established programs to be distributed as grants through the Small Harbor Improvement Program at the Maine Department of Transportation, and as Shore and Harbor Planning Grants from the Maine Coastal Program. These funds are supporting a variety of harbor planning and improvement activities underway through 2006.

Small Harbor Improvement Program (SHIP). Established by a bond in 1995, the SHIP, which is run by Maine's Department of Transportation, has funded dozens of waterfront access and harbor improvement projects. State funding for SHIP was renewed in 2003, 2004, and 2005 to continue public investment in coastal communities through a competitive grants program. New public

funding in 2006 ensures that this program will continue to support marine infrastructure improvements.

Partnerships with Complementary Organizations. The Coastal Program frequently seeks partnerships with organizations with complementary missions to accomplish projects that would be beyond the means of the MCP alone. Through partnerships, nominal funding from the MCP is leveraged by additional resources from partner organizations. Examples of partnerships include Beginning with Habitat (with IF&W, DOC and Maine Audubon), the Sea and Shore Radio Series (with the Wells Reserve and Maine Sea Grant), and the Marine Habitat Primer (with Massachusetts CZM, the Gulf of Maine Council and others).

Additional Resources

United States Army Corps of Engineers(USACE) CHARTS and LIDAR surveys. The USACE will be conducting Compact Hydrographic Airborne Rapid Total Survey (CHARTS) and Light Detection and Ranging surveys along the Maine coastline in the spring of 2006. The Maine Geological Survey (MGS) played an important role in helping to facilitate when/where these surveys would be flown. MGS solicited information from several state agencies and organizations concerning what areas they deemed important for topographic/bathymetric and IR/spectral imaging. These agencies included the Department of Inland Fisheries and Wildlife, the Maine Emergency Management Agency, Wells National Estuarine Research Reserve, the US Fish and Wildlife Service, the University of Maine, the Maine Natural Areas Program (Department of Conservation (DOC)) and the Bureau of Parks and Lands (DOC), and the Maine Coastal Program and the Maine Floodplain Management Program (State Planning Office). MGS submitted the information they received to the USACE during a meeting in Massachusetts in 2005.

Interns. Existing staff resources are routinely supplemented by the use of interns who assist with MCP projects as part of their graduate or undergraduate school programs.

Technical Needs

Most strategies in this Plan can be accomplished by existing staff in the Maine Coastal Program and its partner agencies. There are some tasks that will require technical skills that are not available in State government (e.g. field scientists, local project coordinators, etc.). MCP intends to contract for these services as they are needed.

Appendices

Appendix A – Public Comments & MCP Responses

I. Introduction and Consideration of Public Comments

This appendix includes all comments received during the established period for *The Maine Coastal Plan -- Assessment and Strategy under Section 309 of the Coastal Zone Management Act -- Draft, May 2006*. The draft report was posted for comment during the period from May 5 through June 5, 2006. Methods used to solicit comments are outlined in the chapter entitled "Public Participation". Maine Coastal Program (MCP) staff at the State Planning Office considered all of the comments and reviewed them with other state agency staff as needed.

We are extremely grateful to our reviewers for their input and their attention to detail. We received comments that were insightful and full of valuable suggestions for improvement of the Maine Coastal Program. We will do our best to implement your suggestions and look forward to continued collaboration with our reviewers.

In many cases, comments were incorporated into the final document through the correction of errors, addition of information, clarification of approaches and in one case, by the addition of a new strategy. One of the priority ratings in the Plan (Special Area Management Planning) was changed from low to high based on public comments. A copy of the Appendix was provided to reviewers along with a link to the revised *Plan* including the Appendix which was posted on the Maine Coastal Program web site.

II. Detailed Comments and Maine Coastal Program Staff Responses

Note: The reviewer's name and affiliation are listed at the beginning of the text. Maine Coastal Program staff response is included below the reviewer's comments in bold type.

Jeffrey Romano
Public Policy Coordinator
Maine Coast Heritage Trust

Thank you for the opportunity to provide comments on the draft Maine Coastal Plan. Maine Coast Heritage Trust (MCHT) has reviewed the document and has the following recommendations.

The assessment of "Land Conservation Efforts" under the "Public Access" section should be revised. The 121,000 acre number attributed to MCHT includes land protected outside of the coastal zone and land owned by the public (by including this number with the state and federal statistics it incorrectly suggests that 270,000+ acres have been protected in the coastal zone). We estimate that the land trust community (MCHT, The Nature Conservancy, and local land trusts) have collectively protected more than 30,000 coastal acres in fee. In addition, you might consider looking at the state owned conservation land number of 80,757 acres, that number seems too high.

There are a number of strategies proposed in the plan; MCHT is particularly encouraged with the following:

1. Under Public Access – Working with LMF, DOC, DMR, DOT, municipalities, and land trusts to develop a program to proactively identify sites suitable for coastal water access.
2. Under Wetlands – Work on developing a source of state match for habitat restoration activities.
3. Under Cumulative and Secondary Impacts - Work with two coastal focus areas to develop and implement conservation strategies based upon inter-municipal and land trust collaboration.
4. Under Energy & Government Facility Siting – State review of the Site Location of Development Act, Natural Resources Protection Act, state water quality standards, and pertinent state energy policies as applied to alternative energy development activities in coastal waters and adjacent areas.
5. Under Aquaculture – Examining the Interactions between Aquaculture and Seabird Colonies.

MCP Staff Response: We reexamined the conservation lands figures in response to these comments. The amount of state-owned conservation land does indeed appear to be a relatively accurate figure. We did change the report to reflect the more accurate value of approximately 30,000 coastal acres held in fee by land trusts. (See Land Conservation Efforts, page 11.) For multiple reasons, it is difficult to pin down an exact figure for conserved lands acreages. However, the GIS conserved lands layer that will be developed by MCP in cooperation with other agencies should help to solve some of the problems involved in calculating these figures.

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Jim Wadsworth
Friendship International
Rockland, Maine

One issue I noted in the Ocean Resources section is the dragging issue which has been a huge concern in the urchin business for years. That is a very tough issue and you will never convince Downeast draggers that they are doing anything harmful.

MCP Staff Response: We acknowledge the fact that this is a very difficult and contentious issue. However, we feel that it is important to work towards protecting vital habitats from the effects of dragging. We recognize the value of obtaining input from commercial fishermen and will do so as part of this project. Working with the industry and hearing their concerns will be an important part of developing new practices and criteria for intertidal and nearshore dragging.

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Richard Dressler
Wildlife Resource Assessment Section
Maine Department of Inland Fisheries and Wildlife

Unfortunately, I don't have the time to review this plan in detail. However, I have commented on previous coastal planning documents from SPO and again wonder why there is no chapter in the current Plan draft for Wildlife and Wildlife Habitat. It seems to me that this should be an integral part of any plan for the coast of Maine. Wildlife and wildlife habitat may be mentioned peripherally in the document however, I believe these resources are important enough to be addressed specifically. Because it is not specifically called out in the plan, funding needs for wildlife and wildlife habitat are not being adequately addressed through Maine's coastal program.

MCP Staff Response: We acknowledge the importance of planning for Wildlife and Wildlife Habitat in Maine's coastal zone. MCP has done its best to incorporate planning for wildlife where appropriate into the nine issue areas that the 309 Assessment and Strategy document is required to address. Beginning with Habitat along with support for implementation of regional pilot projects is identified in the Cumulative and Secondary Impacts section of the document.

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Barbara Arter
Watershed Consultant

1. I am pleased that SPO is taking the time to carefully consider the issues and I liked what I was able to read in Cumulative and Secondary Impacts and Wetlands.

2. There is a tremendous amount of stress on the coastal environment especially in Hanc/Wash Counties - HUGE tracks of coastal land/habitat being developed and destroyed/lost forever. I am reasonably confident that little is being done to stop it, however for all of the reasons that you state in the plan. You or your staff should review the latest Maine Forest Service report which states that terminal harvesting is greatly on the rise - this is just another statistic with obvious ramifications which fit into this picture (terminal loss of forest habitat, change in nat resource culture, etc).

3. After 20 years of working with landowners, municipalities, conservation organizations, the state, etc, I am confident that the only solution to this problem is stricter laws. The shore land zoning law is very simple example of this. Among forest biologist and watershed experts, the standard is now closer to 200 ft. Until the law is changed to this however, not much improvement will occur. A second example is wetland mitigation. Again, no wetland should ever be destroyed and no mitigation pond can replace the complex ecosystem. But the laws need to be changed. So, I guess what I am saying it that I hope the plan addresses more than just more education and improved planning. The plan MUST ADDRESS CHANGING THE EXISTING LAWS AND ENFORCING THEM.

MCP Staff Response: MCP acknowledges the need to review and assess the efficacy of current laws and regulations. MCP plans to review the Shoreland Zoning Ordinance starting

in year 2 of this 5-year planning period. MCP continues to work with federal, state, and NGO partners, on assessment of wetland mitigation to provide opportunities for more environmentally meaningful compensation.

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Steve Walker
Beginning with Habitat Program Coordinator
Maine Department of Inland Fisheries and Wildlife

Page 76, second full paragraph: "The program now intends...regional open space plans and regional strategies..."

We suggest revising this to more fully reflect IF&W's vision for the next phase of Beginning with Habitat (BwH) work. This vision includes: 1) to develop a program of targeted, in-depth assistance to towns and land trusts in the two regions of Maine with the highest development pressure; 2) Improve the information BwH provides to local planners to address identified needs in the areas of coastal resources, aquatic habitats, grassland habitats, and habitat connectivity; and 3) working with partner agencies and organizations to ensure that Beginning with Habitat principles and data are incorporated into conservation and land use planning and priorities at local, regional, and statewide levels throughout Maine.

In summary, we are working toward not being seen only as a distribution source for maps and data, but as a facilitator of on-the-ground implementation of BwH principles at the local and regional levels.

Page 78, "Smart growth and growth management": The second bullet suggests that the implementation of alternatives to "traditional development" is delayed by a lack of awareness only. It should be pointed out that there is a lack of incentives for pursuing this work as well. Is this what the 3rd bullet is saying? Maybe clarifying the need for incentives to jump start implementation would be helpful.

The remainder of this section does seem to touch better on the need for implementation of planning materials and not just making more information available.

Over the next few months, IF&W intends to develop a series of case studies that demonstrate how BwH principles are being enacted at the town level and we will be improving our approach to working individually with towns, and regional groups, to implement similar approaches. We hope that this work, once complete, will mesh well with the Coastal Programs efforts.

MCP Response: We agree with these comments and have made the suggested changes to the text under "Other Technical Assistance – Beginning with Habitat" in the "Management Characterization" section and under "Smart Growth and Growth Management" in the "Conclusion" section of "Cumulative and Secondary Impacts".

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Susan Faraday
Project Manager
The Ocean Conservancy – New England Region

Here are a few comments on the Ocean Resources and Special Area Mgt. Planning sections. A general comment: it's a little confusing that so many of what seem to be area mgt/planning items are included in Ocean Resources and that section given a 'high' priority (which I concur with) while the SAMP section is pretty vacant and given a 'low' priority. I think I understand why, that Maine doesn't have what's considered a formal SAMP program for lots of reasons, but Ocean Resources seems to be a large-ish catchall category and many area mgt/planning tools and programs in here could be teased out and put neatly under the SAMP section.

Ocean Resources

1. Resource characterization: generally ok, a few thoughts:

- p.40, marine fisheries, anticipated threat, 'increasing fishing pressure' …, I'd just say 'marine habitats' not just nearshore, since the threats go out to 3 miles and nearshore to some can suggest just intertidal or eelgrass habitat
- p.41, ecological knowledge, anticipated threat re calls for 'area-based and community-based mgt' …I think it's more correct to say 'different approaches to mgt such as 'area-based' and 'community-based' as these are not the same thing, and there are other types of different management of interest re 'implementation of ecosystem mgt.' I think it's more correct wherever this is used to call it 'ecosystem-based mgt' as the intent is to base mgt on ecosystem concerns, not actually 'manage' the ecosystem' (as if we could!)

MCP Staff Response: The reference to "nearshore" habitats on this page has been changed to "marine" habitats as suggested in the comments, and "ecosystem management" has been changed to "ecosystem-based management." We did not change the text as suggested concerning area based and community-based management because by listing them separately, our intention is to acknowledge that they are not the same thing.

Resource Characterization (cont)

- p.42, estuarine and marine habitats, threat or conflict re enabling legislation for MPAs … I do not think it is correct that current authority is insufficient to designate MPAs, current harvesting or temp closures could very well meet the definition of MPAs and many of them do, depending on whose definition you're using, the problem is that current authority is limited to establishing sites for fishery mgt purposes, not for broader purposes. I also think in the 'anticipated' column that groups are calling for a network of MPAs to also protect ecological integrity, not just conserve habitats and rebuild stocks.

MCP Staff Response: The wording has been clarified in the text and now reads: "While Maine's marine resources laws include the authority to implement harvesting closures and temporary closures for fisheries management, Maine lacks specific enabling legislation to enact broad-based marine protected areas."

2. Re the proposed strategies: I think they're pretty good, especially BAM and marine invasives, but again this seems like a real smorgasbord of a category, so a little broad. I found the end bit re

strategies funded by non-309 monies to be not informative enough and a REAL smorgasbord. It would be good to have these explained a bit more for how they fit with the rest of the program if you need to mention them at all.

MCP Staff Response: MCP acknowledges that the ocean resources management section contains a variety of tasks, but has determined that the current organization of, and details contained in this section provides a logical flow between the assessment, management characterization and strategies without the addition of text. Two of the three "non-309 funded" tasks at the end of this section are at the incubation stage and thus cannot be further described at this time. The need for the "dredged materials management" strategy is fully explained in the management characterization section.

3. I definitely agree with the high priority for Ocean Resources. I think it could be clearer to put things like BAM, Taunton Bay and other mentions of MPA/protected area stuff in the Special Area category and bump it up to high, but that's an organizational comment and I understand that's probably more of political decision.

MCP Staff Response: **MCP staff acknowledges that several of its ongoing programs such as bay area management, Beginning with Habitat, and other projects could be considered under the Special Area Management Plan section of the 309 Strategy. Rather than reorganizing the strategy document, MCP staff determined that it is sufficient that the SAMP section of the Assessment and Strategy discusses and cross references these regional projects and holds open the opportunity for use of formalized special area management plan designations during this 5-year 309 cycle.**

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Paul Cole
Superintendent/Executive Secretary
Roosevelt Campobello International Park Commission

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May 11, 2006

Ms. Elizabeth Stephenson
Maine Coastal Program
State Planning Office
38 State House Station
Augusta, Maine 04333

Dear Ms. Stephenson:

The Roosevelt Campobello International Park Commission is profoundly interested in recent proposals to establish liquid natural gas terminals in the areas of Eastport, Robbinston, and Calais, Maine. Although the State of Maine's Draft Maine Coastal Plan, Assessment, and Strategy Plan Maine states, notwithstanding the significance of energy issues currently being addressed, that ". . . Energy and Government Facilities Siting should be considered a medium priority . . ." and "The schedule for decisions on pending LNG projects, for example, precludes development and implementation of a pertinent 309 strategy.", the Commission does not agree.

Through its past participation with the Eastport Pittston Oil refinery proposal and its current participation in Federal Energy Regulatory Commission (FERC) scoping sessions for Quoddy Bay's and Downeast LNG's proposed terminal projects, the Commission has become concerned with potential damage to the marine environment should any of the proposed terminals be developed or should some new proposal emerge. Approval of all or any of the recently proposed liquid natural gas proposals is not guaranteed. If none of the LNG proposals move forward, the possibility of future proposed energy development (tidal power, LNG, or oil) still exists for the Eastport/Cobscook Bay/Cutler area - especially so in the Eastport Cobscook area due to the deep water and strong tides.

For this reason, Commission staff have reviewed the draft Maine Coastal Plan, Assessment, and Strategy, specifically the Ocean Resources, Special Area Management and Planning, and Energy and Government Facility Siting sections. The Roosevelt Campobello International Park Commission believes the State of Maine and the National Oceanic and Atmospheric Administration (NOAA) should closely examine the potential harm that could result to the significantly important habitat within the St. Croix River and Cobscook and Passamaquoddy Bays, and believes that the Draft Maine Coastal Plan, Assessment, and Strategy Plan Maine should address the following concerns under "high" priority.

Environmental concerns: A unique geology and topography are responsible for tides, among the highest in the world, and strong currents and upwellings in the waters off Campobello's northern shores. In turn, these currents, tides, and upwellings are responsible for a concentration of nutrients and plankton, the abundance of which contribute to the area's importance as a feeding area for shore, seabirds, and waterfowl, small and large fish, and marine mammals such as harbour porpoise, seals, and whales. This feeding area is especially important to species feeding to store energy for long migrations, such as shorebirds and whales, and to those species that come to the area to birth and raise their young, especially harbour porpoise, whales and seals. The

Commission's environmental concerns extend to potential harm to the ecology of the waters off Campobello Island, including Passamaquoddy and Cobscook Bays, to impacts on endangered, threatened, and species of concern and to impacts on the coastal and marine environments.

Environmental concerns relate to:

- migratory fish species and the potential disorientation on their in-bound and out-bound migration by light and noise occurring during construction and operation of the facilities, and possible increased predation resulting from silhouetting against the water surface during nocturnal migrations. These species include American eel, Atlantic salmon, alewife, Atlantic herring, American smelt, sea-run brook trout, and striped bass.
- the possibility that frequent, disruptive tanker/tug passages and noise could force marine mammals, fish, and birds to leave the vital feeding areas of Head Harbour Passage for areas that will not meet their needs.
- the potential that a dramatic increase in ship traffic will result in an increase in ship strikes and consequent mortalities of right whales and other whale species.
- the possibility that placement of lights along the shore might aid navigation but greatly impact the herring weir fishery since herring avoid light. Marine mammals that depend on these night incursions of herring, mackerel, silver sides, and other forage species will be unable to meet their needs.
- the potential disruptive effect of submarine noise and vibration on whales and on harbour porpoise.
- the possible negative effects of light, noise, and increased traffic on migratory shorebirds relying on intertidal coves in the area as critical resting and feeding stops during their long migrations.
- the potential for siltation covering eggs of developing marine species during facility construction or during vessel traffic.
- the potential for detrimental impacts on early life stages of zooplankton, lobster, fish, and larvae of many intertidal and marine species if sea water is used for regasification process (organism impingement and rapid, severe cooling of sea water) or from ballast exchanges, thereby altering the marine ecosystem into a much less favorable habitat for waterfowl and shorebirds by markedly decreasing their food supply and by reducing the number of larvae reaching maturity for later harvesting by commercial fishers.
- impacts from docking facilities such as fluid leakage from pumps or other machinery, trash, disposal of wash-down or cooling water.
- the increased potential for oil spills. (See below.)
- the potential for degradation of air quality. (See below.)

Oil Spills: All LNG tankers are not fueled by LNG and many carry bunker oil to power onboard generators and other equipment. Should an oil spill occur, many factors determine the spills harmfulness to the environment. These factors include not only the size of the spill, but the spill's location, the type of oil spilled, time of tide, time of year, weather, winds, and currents. All of these influence the speed, direction, and distance of a spill, the extent of land and water affected, the amount of oil recovered, and the effects on tourism and natural resource-based economies.

CANUSLANT is a U.S./Canada Atlantic Region joint preparedness team that participates in a series of biennial exercises, conducted since 1974, based on the Canada/United States Joint Marine Pollution Contingency Plan and its Atlantic Operational Supplement. The intent of the exercises is to prepare US and

Canadian government agencies and other relevant parties to effectively handle hazardous materials spills that take place in international waters.

The location of the exercises alternates between the two countries, and the CANUSLANT exercises are developed to provide as realistic a scenario as possible. Participants include the Canadian and US Coast Guards; Environment Canada, and the US Environmental Protection Agency; other federal, state, and provincial agencies with environmentally-related mandates; and industry, non-governmental, and citizens' organizations. A joint US/Canadian command post is often established, treating the Gulf of Maine as one ecosystem and forgetting the political border to establish one response organization throwing in the resources of both nations.

The following bold text is from the executive summary of the CANUSLANT 05 Exercise Report.

"Pertinent discussion points that will help advance future bi-national Joint Response Team and Area Committee action about Places of Refuge were: . . . the need to pre-establish a list of areas of special vulnerability, such as Bar Harbor and Cobscook Bay on the U.S. side and Passamaquoddy Bay in Canada; . . . ."

Past CANUSLANT exercises involving simulated oil spills have attested to the extreme difficulty of containing spills in the waters around Campobello and in Passamaquoddy Bay. Lack of prepositioned booming and skimming equipment is a severe limitation. However, even if the equipment were readily available, extreme tidal ranges, strong currents, and strong winds make containment of spills in the Passamaquoddy area almost impossible. Campobello's distance from aircraft capable of applying dispersants rules out the use of dispersants, and the proximity to populated areas rules out in situ burns. The promptness with which the response begins also plays a role in determining how successfully the spill is contained.

The fishing industry suffers following an oil spill when fish are either directly contaminated, making them unsaleable, or when their spawning areas are damaged. Shellfish can also be rendered worthless when a spill contaminates the areas where they are harvested. Fishermen's boats, dirtied by spills, must be cleaned so they don't spread pollutants into uncontaminated waters. Toxic substances in oil can contaminate several levels of the food chain, affecting species from microorganisms to mammals. Oil also damages fragile salt marsh vegetation and can be incorporated into sediments and then leach out over the years, causing chronic low-grade contamination of the marine environment. Oil that has spread through the marine environment can coat the feathers of sea birds, ruining their insulative properties so that the birds can't stay warm or dry. And, as they preen their feathers, the birds ingest toxic substances in the oil. If the oil contaminates the surface of the birds' eggs during incubation, their chicks may not be able to hatch.
Tourism-based economies suffer when tour operators, sea-kayaking businesses, and other marine and shoreline-related entities have to temporarily suspend their businesses following a spill, or when beaches become coated with oil, and suffer again when potential tourists decline to visit because of environmental catastrophe.

Air Quality: The Park Commission has concerns relating to air quality-related issues resulting from emissions during the construction, operation and servicing of Downeast LNG's facility, from LNG tankers and supporting tug activity, and from potential additional industrialization made possible through LNG facility development. Air quality-related concerns pertain not only to issues of possible degradation of visibility, but to potential harmful effects on people, plants, and animals in the Park and the region. In addition, the Park

Socioeconomic Concerns: Socioeconomic impacts resulting from facility construction and operation, increased shipping traffic, and security exclusion zones will likely affect the shore, the bay, municipalities surrounding the bay, and the province. A strong likelihood exists that all boat, fishing and ship traffic from beyond Head Harbour on Campobello Island to and including the area of the proposed LNG terminal would be shut down completely or excluded from the area at any time when LNG tankers are present. This would have significant disruptive and negative effects on the local and regional economy and all marine related commercial and recreational activities.

These impacts would affect those who use the waters of Passamaquoddy Bay for commercial purposes and would include commercial charter boat fishing and whale watch tours, those tending aquaculture pens and herring weirs, lobster, scallop, sea urchin, herring, and sea cucumber fishermen, and those who use small boats to access clam digging or periwinkle harvesting areas. Impacts would include losses of fishing territory and loss of time on the beds or in actively fishing.

Other socioeconomic concerns are:

- noise and operational pollutants from compressors, pumps, idling ships, maintenance or ground transportation equipment
- impacts to the night sky from 24-hour operational and security lighting
- potential effects of the pier and its marine traffic on existing traffic such as the passenger ferry from St. Andrews and the car ferry from Deer Island to Campobello.
- the effects on those who use the waters of Passamaquoddy for recreation (sailing, kayaking, motor boating, fishing scuba diving)
- obstruction or interference with local ship and boat traffic as well as ocean going vessels traveling to Bayside Port in the St. Croix River.
- impacts on the potential for in-stream tidal power generation (see below).

In-stream Tidal Power Concerns: Franklin Roosevelt was a strong proponent of Passamaquoddy Bay's renewable energy in the form electrical generation from tidal power. Currently, eight states and provinces are contributing to and are stakeholders in a definition study to determine the feasibility of in-stream electrical tidal power generation. The initial phase of the study investigated and selected, out of 40 sites evaluated, the Eastport/Lubec area as Maine's (and perhaps the United States') best potential location for future tidal power generation of commercial-scale electricity. Only the Lubec/Eastport area has sites that could support a ten-megawatt generating facility. (Ten megawatts would power about 7,000 homes and would power about 25% of the energy needs of Washington County, Maine.) More specifically, the study team determined that the Dog Island/Clark's Ledge area appeared to have the highest potential, with the waters off Shackford Head also showing promise. In addition to the quality of the tidal flow itself, the skills available in the local area, the proximity of shore side support resources, the potential for international collaboration with New Brunswick, and the receptivity demonstrated by community leaders also impressed the study team.

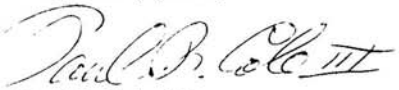
The study team hopes to have a 500-kilowatt demonstration model in the water by 2007. If successful, the generation of tidal energy would increase energy independence, provide local economic benefits, and demonstrate the effectiveness of new technologies that could be used for both larger-scale electricity generation and scaled-down village-level applications.

New Brunswick is a partner in the trial tidal power study, not necessarily in the Eastport/Lubec site, but in the study as a whole. The Dog Island/Clark's Ledge project would likely provide useful technical and operational information of interest to New Brunswick as well, since technology developed at Dog Island could also shape the province's ability to develop its own resources and increase its own energy self-reliance.

According to a previous study, tankers avoiding the turbulence created by the Old Sow whirlpool would have to travel as close to Dog Island as possible. However, the question of whether a potential conflict exists between the location of a tidal power project and the routing of LNG tanker traffic has not been answered. LNG proponents will likely give assurances that tidal power and LNG tanker traffic in the Eastport area can coexist, but when the time for tidal power development arrives, those same proponents may likely discover unexpected barriers and conflicts.

It may be three to five years before a 20- megawatt tidal power array could become a reality. LNG terminal development proposals, however, have immediacy and momentum and are driven by pressure to make favorable decisions as soon as possible. Development of terminal facilities to ship non-renewable LNG should not take precedent over the renewable resource generation of tidal power and its associated benefits. Because LNG tanker traffic has the ability to affect tidal power generation, tidal power development potential should be assured now rather than later.

Respectfully yours,



Paul B. Cole, III
Superintendent/Executive Secretary

MCP Staff Response: The focus of the 309 assessment process is on program change, such as development of new legal authorities, government programs or funding sources. The relative priority given an issue assessed, such as energy and government facility siting, is meant in turn to reflect judgment on the suitability of and need for program changes to address an issue. As noted in the Commission's letter, the draft 309 assessment lists Energy and Government Facility Siting as a "medium" priority for several reasons noted therein. It is important to note that this determination reflects the nature, purpose and timing of the 309 assessment process and not the importance the State places on assurance that the LNG projects proposed for Washington County referenced in the Commission's letter are subject to thorough and detailed environmental review. Assurance of such a review is in fact a high priority for the State. To that end, as noted in the draft 309 assessment, Governor Baldacci established the Interagency LNG Team, led by Uldis Vanags of the Governor's Office of Energy Independence and Security, to help ensure well-coordinated state agency participation in Federal Energy Regulation Commission's ("FERC") pre-filing process and related regulatory proceedings regarding LNG projects proposed in Maine.

The LNG facility-related environmental and other concerns that the Commission cites in its comments are subject to analysis and consideration in the context of the Environmental Impact Statement ("EIS") that FERC must prepare as part of its review and decision. State and federal license and permit reviews, including those pursuant to the Clean Air Act, Clean Water Act and Coastal Zone Management Act, provide other contexts for regulatory review and consideration of such concerns. Thus, there are existing processes for review of the environmental and related concerns that the Commission raises and Maine agencies are making participation in such processes a priority. In addition, FERC's pre-filing process for LNG projects is new, a feature of the Energy Policy Act of 2005. Some experience with this new, federally mandated process, which is designed in part to enhance coordination of local, state and federal review within the framework of FERC's review process, may be necessary and useful for the State in identifying relevant program improvement, such as changes in pertinent state laws.

The Commission correctly notes that the LNG projects proposed in Washington County may not ultimately be approved and built and other energy development projects may be proposed in the region and, accordingly, suggests that the State's coastal plan consider the potential for future energy development. As outlined in the draft 309 assessment, tidal and wind power development are potential new, emerging uses in the State's coastal zone. In anticipation of such development proposals, the State is proposing to review pertinent potential technologies and development and develop proposed changes to coastal zone management laws and rules as appropriate. Likewise, the strategy envisions assessment of the efficacy of state laws to address offshore oil and gas development, to the extent such development becomes foreseeable due to changes in federal law. By contrast, LNG proposals are currently under consideration in Maine. Although there are no LNG facilities in Maine comparable to those proposed, DEP and other state agencies do have significant, relevant experience with review and regulation of gas pipelines, commercial docks and piers and other large-scale, industrial projects which are major elements of LNG projects.

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Brooke Wilkerson
Maine Natural Areas Program

My comments are brief and pertain to the Wetlands Assessment section.

Management Characterization:
As you probably know, you can also request data about rare plants and exemplary natural communities directly from our office. Raquel Ross is our information manager (Raquel.ross@maine.gov; 287-8046)

MCP Response: Thank you for reminding us about this resource at MNAP. We are confident that DEP staff routinely uses this information in their assessments.

What are potential restoration sites being inventoried for (e.g., development pressure, species richness, level of degradation)?

MCP Response: The inventories identify impacts to the physical habitat of estuarine and riverine areas. Individual projects require assessment regarding species abundance, particularly if the objective of the project is native sea-run fish restoration, for example.

Is there a baseline or benchmark against which these sites are compared to determine their quality?

MCP Response: All restoration projects are encouraged (sometimes funding is even provided) to do both pre- and post-restoration monitoring. Often times a reference site (either a down stream salt marsh or un-impacted river stretch) is selected as a reference site under the assumption that these represent natural conditions.

Is there a monitoring program put in place after restoration to gauge long-term effectiveness? In general, a monitoring program will only be effective if it includes baseline documentation of the resource (including plants and animals, development and recreation pressures, etc.) before and after any manipulation.

MCP response: As stated above, it is recommended (required if grant monies are awarded) to monitor for before conditions and 3-5 years post restoration work to determine the degree of success or failure associated with a project.

At MNAP, we have experience developing protocols for long-term monitoring of natural areas in addition to conducting vegetation inventories.

MCP response: MCP would be interested in learning more about MNAP protocols.

Thank you for the opportunity to review this report. Please let me know if we can assist you with monitoring questions or in other areas.

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George Lapointe
Commissioner of the Department of Marine Resources

The cumulative and secondary impacts of development section of the 309 Assessment and Strategy does not include a discussion of coastal rivers. An issue of concern to us here at DMR is the impact of obstructions to fish passage, water quality degradation, erosion and sedimentation and consequences of land development on diadromous fish. As referenced in the ocean management section of the document, a multi-party agreement for restoration of diadromous fisheries in the Penobscot River was signed in June 2004 and the state is a partner in this initiative. The coastal program could play an important role in helping to create a fisheries restoration plan for the Penobscot.

Response from MCP: The Cumulative and Secondary Impacts Section of the document was amended to include: a discussion of coastal rivers in the Resource Characterization, a summary of recent work in the management characterization and a strategy specific to the development of a fisheries management plan. See pages 82, 89-90, and 98-99.

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Roger Fleming
Senior Attorney
Conservation Law Foundation

Thank you for considering these comments on the draft of the Maine Coastal Plan, Assessment and Strategy. As suggested, we attempted to focus our comments on a limited number of priority areas that we view as critical to ensuring a sustainable future for coastal ecosystems. We also believe that these priorities represent areas that are most appropriate for the Maine Coastal Program to address given coastal needs and current resources. We are concerned about the breadth of the areas identified to be addressed in the draft plan as well as much of the specific prioritization. Related to this, we are concerned that over the years an increasing amount of the limited resources available under section 309 of the Coastal Zone Management Act may be de facto dedicated for the support of core staffing and activities of state agencies that should be supported under ongoing state budgeting. It would be helpful to show a full accounting of the state staff positions that are supported in full or in part by section 309 funding and a detailed description of their job responsibilities. We are also concerned that a significant amount of program resources appear intended to subsidize activities that should be undertaken by industrial users of coastal and marine resources. It is our view that this funding should be dedicated to activities to be carried out by the Coastal Program that would help ensure the future health of the ecosystems upon which our all of our coastal economies depend, such as reforming coastal zone governance in order to support ecosystem-based management. In this way, Maine will be better positioned to proactively adapt to the rapidly changing demands being placed on our coast and near-shore waters along with the significant challenges that lie ahead for our coastal ecosystems.

Ocean Resource Management

CLF continues to support the Coastal Program's efforts related to ocean resource management as a high priority concern. For the reasons stated in the draft report, including the continued struggles in Gulf of Maine fish populations and increasing demands on coastal ecosystem resources, we are at an unprecedented time where new approaches to management of our fisheries and the ecosystems that support them need to be developed. The U.S. Commission on Ocean Policy and the PEW Oceans Commission Report both reinforced emerging trends in coastal and ocean governance toward ecosystem-based management. These trends have been reflected in Maine in the past five years as the public has reacted to the changing demands on our already stressed ecosystem resources with calls for new ecosystem-based approaches to management, characterized by proactive attention to emerging issues, smaller scale management regions, and increased interaction with decision-makers (e.g., "bay management").

This approach to management is largely uncharted in Maine and requires significant investment including through the Coastal Program and section 309 of the CZMA. Investment is required in developing new information, information management tools, and some restructuring of state agencies on multiple levels. Educational efforts are required in order to help elected officials, agency personnel, administrators, industry, and the public to understand the ecological concepts and terminology that are fundamental to understanding ecosystem-based approaches to management.[2] On a practical level, the Coastal Program should undertake work to ensure that there is a meaningful response to the Bay Area Management Study by the legislature and state agencies. This study provides the legislature and administration with an opportunity to significantly improve coastal and marine resource management. The Coastal Program should help elected officials make the legislative and agency changes necessary for comprehensive, ecosystem-based management.

Related to this, the Coastal Program should work to develop a set of guiding principles for coastal and marine resource management needed to move the first stage of the necessary change to ecosystem-based management forward. The Coastal Program should support elected officials in initiation of a process to develop guiding principles for Maine coastal and marine resource management. Such principles can guide the development of an interagency, ecosystem-based management approach using science and stakeholder participation to protect these public trust resources for conservation and sustainable use.

Independently of these efforts, the Coastal Program should assist the state in developing authority for creating marine protected areas in state waters. Such protected areas, including fully protected areas, are one critical tool missing from the state's tool box necessary for conserving marine biodiversity and protecting the health of coastal ecosystems.

CLF supports additional funding for this priority area for both the Maine Coastal Program and through it, the Department of Marine Resources. Additional resource needs in this area, and the related area of Special Area Management Planning (below), should be made available by reallocating the significant levels of funding identified in this draft plan from the lower priority aquaculture area.

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[2] And to help rid us of 19th century remnant terminology that reinforces the view of the ecosystem as merely a set of "resources" to be exploited. This backwards thinking is also reflected in the recently emerged term "green infrastructure."

Opportunities for collaboration with industry, research institutions, and NGOs like the Conservation Law Foundation, The Ocean Conservancy and others are significant.

Special Area Management Planning

A significant amount of the draft document in this area is focused on identifying obstacles and justifying the failure to take advantage of Special Area Management Planning (SAMP) tool, which has been used successfully in several other coastal states around the country. Given the future threats to coastal and marine ecosystems and the need for improved management to restore and protect coastal and marine ecosystems, SAMP should be a high priority for the Maine Coastal Program to be used as a tool in conjunction with the Ocean Resources strategies outlined in the draft plan.

Many of the threats to coastal ecosystems, like increasing population growth, coastal development, conflicting marine use demands, resource depletion, and sea level rise are acknowledged in the draft. Also reflected in the draft plan is the fact that over the course of the past five years coastal communities of people who value or use coastal and marine ecosystem resources have increasingly demanded improved management, including opportunities for proactive participation in management, e.g., Maine's "Bay Management" initiative. Despite this, the draft program incongruously places the lowest priority on the SAMP program.

The Coastal Program should be commended for its response to the legislature's call for the Bay Management study, discussed in several sections of the draft. The draft plan refers to a few useful tools such as Beginning with Habitat, the Landowner Incentive Program, and site restoration inventories but incorrectly identifies these as methods for protecting habitat. The SAMP program provides a unique opportunity under the CZMA for developing coordinated area-based strategies for protecting coastal and marine ecosystem resources on an ecosystem basis. By developing special area management plans, the Coastal Program also has the opportunity to develop additional resources through Section 309 and additional public and private sources. Given the threats to coastal ecosystem resources and the demand for improved approaches for protecting them, the Maine Coastal Program should make SAMP a high priority and develop a strategy for beginning implementation of several plans over the next five years.

Aquaculture

In our view the commitment to aquaculture in the draft plan is misplaced and aquaculture should be made a low priority for the coastal plan. The funding for this area should be eliminated and dedicated to the Ocean Resource Management and SAMP areas. Maine has promoted and subsidized development of the aquaculture industry, finfish in particular, for over twenty years and while the shellfish industry has proven successful on small scale, the state has little to show for its investment in the finfish industry. It appears that there is about one-half million dollars identified in the draft plan for aquaculture related work that would be better used for programs designed to lead Maine's coast toward a healthier future through restoring and protecting its coastal ecosystems and planning for the appropriate and sustainable use of coastal ecosystem resources by a wide variety of users.

The finfish aquaculture industry has collapsed into a single multi-national corporation, yet the draft assessment continues the same optimism for new investment noting Maine's "excellent water

quality, strong base of workers experienced in marine industries, and proximity to significant markets." It also states that "Maine is an ideal location for some types of aquaculture provided that it is practiced in a sustainable fashion and that conflicts between users are addressed." Unfortunately the industry has failed to achieve the hoped for promise whether operating in the largely unregulated environment that existed through the 1990s or in the still favorable regulatory environment of today. It is time for the industry to succeed or fail on its own and the best way for the coastal program to facilitate its potential for success is by ensuring a healthy coastal ecosystem and, in support of this, a proactive and fair governance system, as discussed above.

With regard to certain specific parts of the assessment and identified strategies, federal court decisions in the past five years revealed years of egregious pollution and disregard for the health of the marine ecosystem by the finfish industry. As a result of its actions, the industry suffered economically from disease outbreaks and the fallout from its pollution problems. Today, the regulatory environment is improved, thanks in part to the Coastal Program. At this stage, the industry needs to be made fully responsible for paying for the studies necessary to establish it as a safe and environmentally sustainable industry, along with any concomitant public promotion that is necessary to establish these facts in the eyes of the public. If it is true that the industry can help solve some coastal environmental problems, the industry should use such facts to profit and promote itself, rather than absorbing scarce resources from the Coastal Program.

This industry receives an inordinate amount of support from various agencies and there continues to be a number of inaccuracies reflected in the draft plan, which may contribute to the wasteful strategies and recommended funding levels. A couple of these inaccuracies that we have experience with are worth noting since we think their characterization here reflects poorly on the Coastal Program. It continues to be inaccurate to attribute concern over the finfish aquaculture industry to second home retirees with no connection to the water. It is also inaccurate to suggest that the referenced FAMP review validated DMR's prior monitoring program -- while certain elements of the FAMP program were found useful, significant methodological flaws and data gaps were identified and this contributed to the environmental degradation documented in federal court findings. Hopefully for the public and the future of the industry, the improved MEPDES permit approach which is based on federal Clean Water Act requirements and the experience gained in Washington and New Brunswick will prevent similar problems from occurring in the future. There are elements of this permit that should be stronger in order to protect the environment, however, it would be inappropriate for the Coastal Program to support any part of the permit review. Such reviews are a standard part of the Clean Water Act's NPDES program and thousands of such reviews are handled by the EPA and state environmental protection agencies every year for hundreds of different industries. DMR simply needs to move on from its historic role in pollution monitoring policy for the industry and focus on other important work for which they are critically needed.

Similarly, while there may be some merit to the other studies identified in the plan such as the seabird/aquaculture seabird interaction study and the disease related studies, it is difficult to understand, given the limited funding available, why the Coastal Program should be funding this work. These studies are simply the type of studies that should be funded by the industry if it wishes to expand and, or profit from the use of public resources.

We hope that these comments are helpful in your review and thank you again for the opportunity to share our views.

MCP Staff Response

1. A number of the points made in the first part of comments submitted by the Conservation Law Foundation (CLF) can be addressed by a brief clarification of the purpose and goals of the *Maine Coastal Plan, under Section 309 of the Coastal Zone Management Act (CZMA). The Maine Coastal Plan* is not a policy document per se; rather it is a review and analysis of nine issue areas considered to be of national importance for coastal zone management. Each federal issue area is characterized, management efforts are summarized and strategies and approaches are developed. The approaches chosen and presented in *The Maine Coastal Plan*, draw from existing state government policies and articulated areas of direction and emphasis. *The Maine Coastal Plan* is not a workplan in itself, but rather a menu of strategies that <u>may</u> be carried out to improve and enhance Maine's Coastal Program over the next five years. In preparing the *Plan*, we chose to cast the net widely to get a variety of strategies on the table. The price tag for this "menu" is much greater than the typical annual funds available under CZMA Section 309. Much more work on prioritization is necessary and will occur, as usual, this winter and early spring when MCP drafts its annual work program.

Projects listed at the end of some of the chapters under the heading of "Strategies for which other (non-309) funds will be sought" is a placeholder for projects that are not eligible for Section 309 enhancement funds, but might be funded through outside grants, partnerships, and other sources. Depending on the particular project, MCP might take a leadership role in securing additional funds through grant-writing, or might simply lend support for the leadership efforts of others (like Maine Sea Grant.) We hope that by publishing and circulating this wider menu, we might attract the interest of other funders and partners.

2. The CZMA is a broad statute and Maine's Coastal Program is multi-faceted. It is good advice that the MCP consider honing down the number of priorities to a leaner program with available resources targeted towards fewer issue areas. *The Maine Coastal Plan* provides a good foundation for additional strategic planning for the MCP.

3. The assessment and strategy section has been revised to more clearly describe the opportunities for using the SAMP process in Maine. We have also revised the rating for SAMP to "high" to reflect the growing interest and opportunity for formalized regional planning approaches to coastal and ocean management. Due to time limitations and lack of available specificity about the exact geographic location for SAMPs, we have kept the SAMP chapter short and retained cross-references in this section to those parts of the ocean management, cumulative and secondary impacts, and hazards chapters that are most suited to regional appoaches. Workplans for individual special area management plans will be submitted to NOAA should the MCP pursue this approach.

4. We believe that we have accurately characterized issues surrounding aquaculture in Maine and this section of *the Maine Coastal Plan* was reviewed quite favorably by NOAA peer reviewers in its initial draft form. The strategies selected were included because they will enhance the ability of decision makers to review and oversee aquaculture in Maine and will assist government in making future policies to improve the environmental performance

of aquaculture. Frequently, MCP serves as a partner on projects and can enlist the support of industry organizations. Due to the amount accomplished over the past five years, aquaculture received a medium priority rating, rather than a high rating.

5. The specific suggestions for bay area management are well-taken. Implementation of the specific bay area management approaches and tasks will follow the Legislature's consideration of the Bay Management Study report in the winter and spring of 2007. MCP has invested considerable resources in the 2-year bay management study and intends to place significant emphasis on follow-up after the study's conclusion.

6. The Maine Coastal Program has undertaken activities to place the concept of marine protected areas (MPA's) on the table for discussion. In the summer of 2005, MCP hosted a day-long invitation-only session to strategize around the apparent impasse surrounding this issue. CLF Boston office staff attended this session and have been involved in the design of the "Marine Dialogue" project (the outcome of the 2005 workshop) referenced in the ocean management section under "Strategies for which other (non-309) funds will be sought". The group that met in 2005 determined that trust and terminology were key barriers to continued discussion of MPA's and that discussions focused on MPA's were detrimental because they singled out only one conservation tool that might be appropriate in Maine. A small steering committee, consisting of staff from the MCP, the Maine Chapter of The Nature Conservancy (TNC) and former CLF staffer Jen Atkinson (now with Quebec Labrador Foundation), has designed an approach for a broader, sustained dialogue on a variety of marine conservation tools. TNC issued a RFP for consultant services for the Marine Dialogue project and a facilitator will be selected this summer. The group was emphatic that this not be a government lead or funded effort. Thus, MCP is a supporting partner and this project is only briefly mentioned in *The Maine Coastal Plan*. Other activities listed under the Ocean Resources section (marine GIS, nearshore mapping, analysis of habitat maps, etc.) are complementary to additional work on MPAs. Although not discussed in *The Maine Coastal Plan*, MCP looks forward to continued communication with CLF on its Seascapes mapping project and anticipates the presentation of the results here in Maine this summer.

7. Finally, the comments of CLF staff and The Ocean Conservancy staff helped MCP to evaluate the section of *The Maine Coastal Plan* on Special Area Management Planning (SAMP). We have edited the SAMP section of the *Plan* to reflect that it is a viable tool for use in Maine, more clearly cross-referencing the issues areas (but not the geography per se) that are potentially ripe for a SAMP approach. In addition, the priority rating for SAMP has been changed from low to high.

Appendix B – Approval Letter from NOAA

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT
Silver Spring, Maryland 20910

JUL 26 2006

Kathleen Leyden
Director, Maine Coastal Program
Maine State Planning Office
38 Stat House Station
Augusta, ME 04333

Dear Ms. Leyden:

The Office of Ocean and Coastal Resource Management (OCRM), Coastal Programs Division (CPD), has completed review of Maine's 2006 CZMA Section 309 Final Assessment and Strategy received by OCRM on June 30, 2006 and the funding summary addendum submitted on July 24, 2006. OCRM is pleased to inform you that we approve your Assessment and Strategy. OCRM further concurs with the State's designated priority levels for the nine enhancement areas. Based on the State's section 309 submission Maine will receive $409,000 in formula funds to conduct the first year general work plan as presented in the State's cooperative agreement.

OCRM included a Special Award Condition (SAC) on your cooperative agreement since detailed information on work programs, budgets, benchmarks, and/or work products could not be finalized in the application before OCRM approved the Final Strategy. Now that the Assessment and Strategy are complete, OCRM staff will continue to work closely with you and your staff to develop the specific section 309 tasks for the FY06 coastal zone management cooperative agreement application, if necessary. Once those are submitted to OCRM, the SAC will be removed by OCRM.

Per our discussions, please remember that implementation for out-year tasks using 309 funds are limited to two years. We will work with you to clarify the appropriate timeframe for program change development versus implementation as projects are submitted in annual grants. Specific suggestions on how Maine can further improve your proposed Strategies will follow in a letter from your Specialist.

CPD used a team approach to review the Assessments and Strategies this year. We believe that the additional reviewers allowed us to provide a more complete review and consistent review criteria for all states. Our goal is to achieve more and better program changes than in the past. OCRM looks forward to working together to achieve the goals you have set for Maine, and again we offer our congratulations.

Sincerely,

John R. King
Chief, Coastal Programs Division

Attachments:
Maine 309 Strategy Funding Addendum for FY06-11

Appendix C – Clarifications Requested by NOAA

During the approval process, NOAA requested that the Maine Coastal Program clarify some issues relating to the strategies in the Maine Coastal Plan. The following pages include NOAA's letter delineating the items needing clarification followed by the response from the Maine Coastal Program.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT
Silver Spring, Maryland 20910

July 28, 2006

Kathleen Leyden
Director, Maine Coastal Program
Maine State Planning Office
38 Stat House Station
Augusta, ME 04333

Dear Ms. Leyden:

Congratulations on the approval of Maine's 2006 CZMA Section 309 Final Assessment and Strategy. I appreciate the hard work committed by Elizabeth Stephenson and the rest of your staff in developing what became a comprehensive strategic plan to guide the next five years of the networked Coastal Program's actions.

Thank you for including the addendum to your Assessment and Strategy that adjusted the 309 project dollar amounts to be consistent with FY06 appropriated dollars, as well as the caveat statement indicating that out-year work plan budgets are estimates contingent upon appropriation of funds. This clarification will minimize confusion on the part of NOAA and your partners.

Below are several specific suggestions on how Maine can further improve your proposed Strategies. Please respond on how you plan to address these concerns:

Public Access:

- Strategy 1: Per our discussions, please remember that implementation for out-year tasks using 309 funds is limited to two years. The GIS database and indicator development strategy is proposed as a five-year project. Please indicate how Maine would accelerate funding into 3 years total (1 year of development and 2 years of implementation). Also remember that Maine can fund up to 20% of 309 funds per year for indicator development, which would amount to $81,800 in FY06.

Hazards:

- The State of the Beaches report is included in Strategies 1 and 2. Please indicate how these strategies support two different program changes.

- In Strategy 2, the discussion focuses on Maine Geologic Service's role and very little on the Department of Environmental Protection's role even though DEP is presumed to adopt the program change. Please clarify DEP's role in this project.

Ocean Resources:

- In Strategy 2, revising nearshore dragging practices, please indicate under what authority the Best Management Practices or codes of conduct for nearshore dragging would be administered /enforced.

- In Strategy 4, adopt and implement Taunton Plan, the work plan includes 3 years of implementation activities while only 2 years are eligible for 309 dollars (see first comment). Please indicate how you would resolve this issue, with the possibility of moving the education and outreach efforts up to FY08 or FY09.

- In Strategy 5, the program change to develop new policy, guidelines and regulatory mechanisms is not made clear in terms of how it would be implemented in the general work plan. Please clarify.

- In Strategy 6, invasive species management, the program change is not clearly spelled out when and how it would occur in the general work plan. Please clarify.

Cumulative & Secondary Impacts:

- Strategy 1, Revisions to Growth Management Act (GMA). In the past, Maine has tried to incorporate the GMA into the MCP, but has encountered problems clarifying how the GMA meets the relevant allowable management technique in the CZMA – Technique A (15 CFR §923.40 et al). We suggest that the state incorporate an analysis of how the GMA can meet the CZMA requirements as the GMA is revised, so that it can be incorporated into the NOAA approved MCP. Also, although not a program change issue, please clarify how regional plans developed under a revised GMA would be implemented and enforceable. Would they serve to coordinate municipal plans and ordinances, or would there be some other authority to implement and enforce those plans? Is it Maine's intention to develop a regional plan or to regionalize municipal plans?

- In Strategy 6, please clarify how the State uses the Federal Power Act to implement the diadromous fish plan.

Thank you for your clarification on these questions. An email response is acceptable. Please feel free to contact me with any questions: 603-862-1205.

Sincerely,

Betsy Nicholson

Betsy Nicholson
Specialist, Coastal Programs Division

STATE OF MAINE
EXECUTIVE DEPARTMENT
MAINE STATE PLANNING OFFICE
38 STATE HOUSE STATION
AUGUSTA, ME 04333

JOHN ELIAS BALDACCI
GOVERNOR

MARTHA E. FREEMAN
DIRECTOR

July 28, 2006

Betsy Nicholson
Northeast Regional Coastal Program Specialist
National Oceanic and Atmospheric Administration
University of New Hampshire
Environmental Tech Building, Suite 148
35 Colovos Road
Durham, New Hampshire 03824

Dear Betsy,

Thank you for the opportunity to clarify the issues you mentioned in your July 28 letter concerning the Maine Coastal Plan, Assessment and Strategy under Section 309 of the Coastal Zone Management Act. The following clarifications are listed in the same order as the questions and concerns were presented in your letter.

Public Access

1) The Maine Coastal Program (MCP) has modified the workplan and budget of the Strategy #1 involving the GIS data layer and performance indicators (see below). MCP has accelerated the Strategy into a 3 year project (1 year development, 2 years implementation) in recognition of the requirement that there be no more than 2 years of implementation.

   Workplan
   FY06 - Assess current conserved lands and public access data and develop database structure; develop interagency agreements and mechanism to update database on an annual basis.
   FY07 - Undertake data research and begin populating database.
   FY08 - Complete data acquisition; develop on-line data viewer, develop atlas.

   Costs
   FY06 - $116,343
   FY07 - $39,328
   FY08 - $39,328

Coastal Hazards

2) In reference to the inclusion of the State of Maine's Beaches report in two Coastal Hazards Strategies, MCP does intend for these strategies to support two separate program changes. The program change in Strategy #1 primarily will result in broad scale policy changes concerning the management of Maine's beaches. The program change from Strategy #2 will result in an

improved permitting process through the utilization of scientific data. The State of Maine's Beaches report will incorporate information gained from the execution of both strategies and will serve as an annual progress report to the Legislature and the public.

3) As noted above, Strategy #2 will lead to improvements in the permitting process which is administered by the Department of Environmental Protection (DEP). Specifically, this program change will allow the DEP to make informed pre-application decisions regarding permitting.

Ocean Resources

4) The Best Management Practices for nearshore dragging would be formalized through rulemaking and would be administered under the authority of the Department of Marine Resources (DMR).

5) The workplan and budget for Strategy #4 concerning the Taunton Bay Plan have been revised (see below) to indicate that only 2 years of implementation activities are being pursued. The education and outreach component and associated costs were moved to FY09.

   Revised Workplan
   FY06 – Continue work (now underway) on development of Taunton Bay resource management plan.
   FY07 – Submittal of plan to 123rd Session of the Maine Legislature; refinement and modification of the plan.
   FY08 – Implementation of new marine management in Taunton Bay (i.e., smaller, more localized, area management for species or complex of species – e.g. urchins, scallops, and other, additional resource management schemes).
   FY09 – Implementation of new marine management in Taunton Bay and Dissemination of lessons learned to other small embayments.

   Revised Summary of Estimated costs
   FY06 - $0
   FY07 - $5,000
   FY08 - $15,000
   FY09 - $15,000
   FY10 - $0

6) The program change for Strategy #5 (the development of new guidelines for habitat protection and/or modification of existing regulatory standards) would occur in FY09 if the analysis indicates a need for modifications or additions to existing guidelines. The program change would likely occur through the revision of dredge window policies and/or amendments to standards for rip-rap, docks and moorings.

7) The program change for Strategy #7 regarding Maine's response to marine invasive species, would take place in 2008 in the form of a Memorandum of Understanding among the northeastern states concerning the management of ballast water. This program change depends on the level of regional cooperation that is achieved and on changes in federal ballast water legislation.

Cumulative & Secondary Impacts

8) As part of Strategy #1, MCP will be looking at Technique A (15 CFR §923.40 et al) and will conduct an analysis of how the Growth Management Act can meet the CZMA requirements. Work on Strategy #1 will also include developing a framework and creating rules to govern how regional plans developed under a revised GMA would be administered and enforced.

9) Regarding the role of the Federal Power Act (FPA) in Fisheries Management Plans: Section 10a of the Federal Power Act (FPA) directs the Federal Energy Regulatory Commission (FERC) to consider state comprehensive plans regarding river resource management when it makes a decision on a hydropower license application. For example, FERC considered the Lower Kennebec River Fisheries Management Plan, an anadromous fisheries restoration and management plans developed by the Department of Marine Resources (DMR), as a comprehensive plan for purposes of Section 10a of the FPA when Edwards Dam was undergoing relicensing in the late 1990s.

   This 309 proposal involves development of a fisheries management and restoration plan for waters in the Penobscot Basin to further fisheries management and restoration objectives by using as a starting point the provisions of the multi-party Penobscot hydro settlement (Settlement) and the FERC and DEP licenses applicable to Penobscot hydro projects adopted pursuant to that settlement. The plan will include restoration and management activities throughout the watershed (i.e. depending on the species in waters blocked by non-hydro dams, waters made accessible by the Settlement and applicable licenses, or waters above hydro dams not included in the Settlement). Once adopted by DMR, the plan would serve as a state comprehensive plan subject to FERC's consideration in making future hydro power licensing decisions, a basis for DMR and DIFW comments to FERC and DEP on hydro licensing matters, as applicable, and a basis for resource management decisions by DMR, the Department of Inland Fisheries and Wildlife and the Atlantic Salmon Commission.

I hope that these points of clarification have eliminated any confusion concerning the strategies presented in the Maine Coastal Plan. Please feel free to contact Elizabeth Stephenson should you have any further questions.

Sincerely,

Kathleen Leyden
Director, Maine Coastal Program